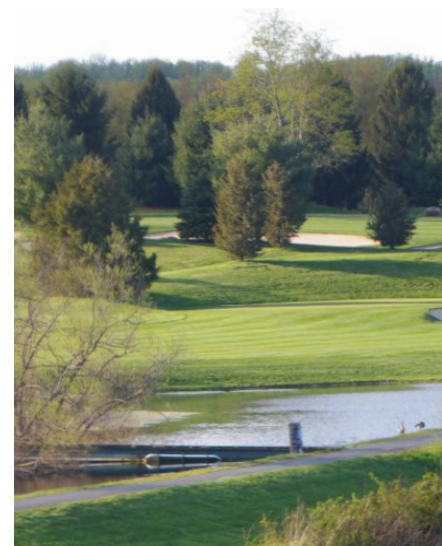


Aberdeen I-95 Area Land Use Study



City of Aberdeen,
Maryland
October 2019





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1. Introduction

The Aberdeen I-95 Area Land Use Study (also referred to as the “Plan”) was initiated by the City of Aberdeen in 2018 to develop a master plan for the incorporated city limits west of Interstate 95 (I-95) surrounding the Maryland State Route 22 (MD 22) interchange, as well as two adjacent future growth areas identified in Aberdeen’s 2011 Comprehensive Plan—Planning Area 10 Gilbert and Planning Area 11 Long/HEAT. The City is advantageously located along I-95, which is a major north-south economic corridor that connects to several major metropolitan areas along the East Coast, including Baltimore, Washington DC, Philadelphia, New York, Boston, and as far south as Miami, Florida. On a local scale, MD 22 travels from Aberdeen Proving Grounds (APG) to the Town of Bel Air, connecting destinations such as the Advanced Manufacturing, Materials, and Processes (AMMP) program facility, Ripken Stadium, Harford Community College, and future University of Maryland Upper Chesapeake Medical Center.

Aberdeen Proving Ground is a US Army training, research, and testing installation, and is a source of major economic advantage for the City to capitalize on. The installation hosts the headquarters for the Command, Control, Communication, Computers, Cyber, Intelligence, Surveillance and Reconnaissance (C5ISR) Center, which is a research and advanced technology development center under the auspice of the Department of the Army. In total, APG employs over 21,000 military personnel, civilians, and contractors, and had an economic impact of over \$5 billion in 2016. The Aberdeen I-95 Land Use Study planning area is located only 3.5 miles northwest of Aberdeen Proving Ground.

The AMMP program is a partnership with the US Army Research Lab and APG for research and development of additive manufacturing techniques and products. This facility focuses on using modern technology to increase the speed and reduce the cost of part production for weapon systems.

Ripken Stadium hosts the Aberdeen IronBirds, which is a Class A Short Season Minor League Baseball affiliate of the Baltimore Orioles Major League Baseball team. Associated with Ripken Stadium is Cal Ripken Sr Yard and ancillary baseball fields, which hold youth baseball tournaments. In 2018 alone, this facility held 36 baseball tournaments that generated roughly 241,000 attendees.

Harford Community College offers over 80-degree programs, certificate programs, and continuing education courses to approximately 20,500 students each year. This college also maintains over 1,000 employees that add to the regional economy. As of 2017, Harford Community College had a total economic impact of over \$428 million.

The University of Maryland Upper Chesapeake Health Medical Center in Aberdeen is currently under construction, expected to be completed in 2021. This 236,000-square-foot medical center will contain 25 emergency bays, and offer a wide range of services, including a full-service, 24 / 4 emergency department, comprehensive behavioral health services, outpatient ambulatory services, as well as observation beds for medical stays and primary and specialty care offices. The completion of this medical center will attract new high-wage employees to the City of Aberdeen, in proximity to the I-95 and MD 22 interchange.

Capitalizing on these economic development opportunities associated with assets and Aberdeen’s location at the I-95 / MD 22 interchange is critical to sustaining desirable and prosperous growth.



1.1 Purpose

The purpose of the Aberdeen I-95 Area Land Use Study is to capitalize on the City's economic opportunities associated with I-95, MD 99, APG, and other major assets in the region. This Plan envisions, guides, and manages future development in the greater Aberdeen community that reflects community aspirations and needs, while accommodating future growth, market demands, and societal trends to enhance the overall quality of life for current and future residents. The considerations and recommendations in this plan cover topics regarding land use, transportation circulation, design, and natural resources, which will be integrated into the decision-making process concerning future growth and development for the Planning Areas west of Interstate 95.

This Plan is not intended to be an enforceable set of regulations but should be used as a guide to implement the vision and create cohesive developments throughout the Planning Areas. However, implementing the recommendations identified in this Plan will be necessary to ensure that future development is consistent with the Plan's vision.

1.2 Planning Areas

The Planning Areas covered in this Plan include the incorporated city limits west of Interstate 95 –currently zoned as Integrated Business District, as well as two unincorporated future growth areas identified in Aberdeen's 2011 Comprehensive Plan: Planning Area 10 – Gilbert and Planning Area 11 – Long/HEAT. These three Planning Areas of focus are the subject of the I-95 Study.

The Aberdeen I-95 Land Use Study planning area is illustrated on Figure 1-1.

Integrated Business District

The Integrated Business District includes the land within Aberdeen's corporate limits west of Interstate 95. This area encompasses approximately 365 acres, and includes Ripken Stadium and Cal Ripken Sr Yard, the Yards at Fieldside Village apartment complex, and the Eagles Rest subdivision.

Planning Area 10 – Gilbert

Planning Area 10 – Gilbert is an unincorporated growth area identified in Aberdeen's 2011 Comprehensive Plan. This area encompasses approximately 565 acres north of the Integrated Business District, bound by Interstate 95, Maxa Road, Gilbert Road, and Aldino Stepney Road. Both the Wetlands Golf Course and Adams Heights subdivision are located within this planning area.

Planning Area 11 – Long/HEAT

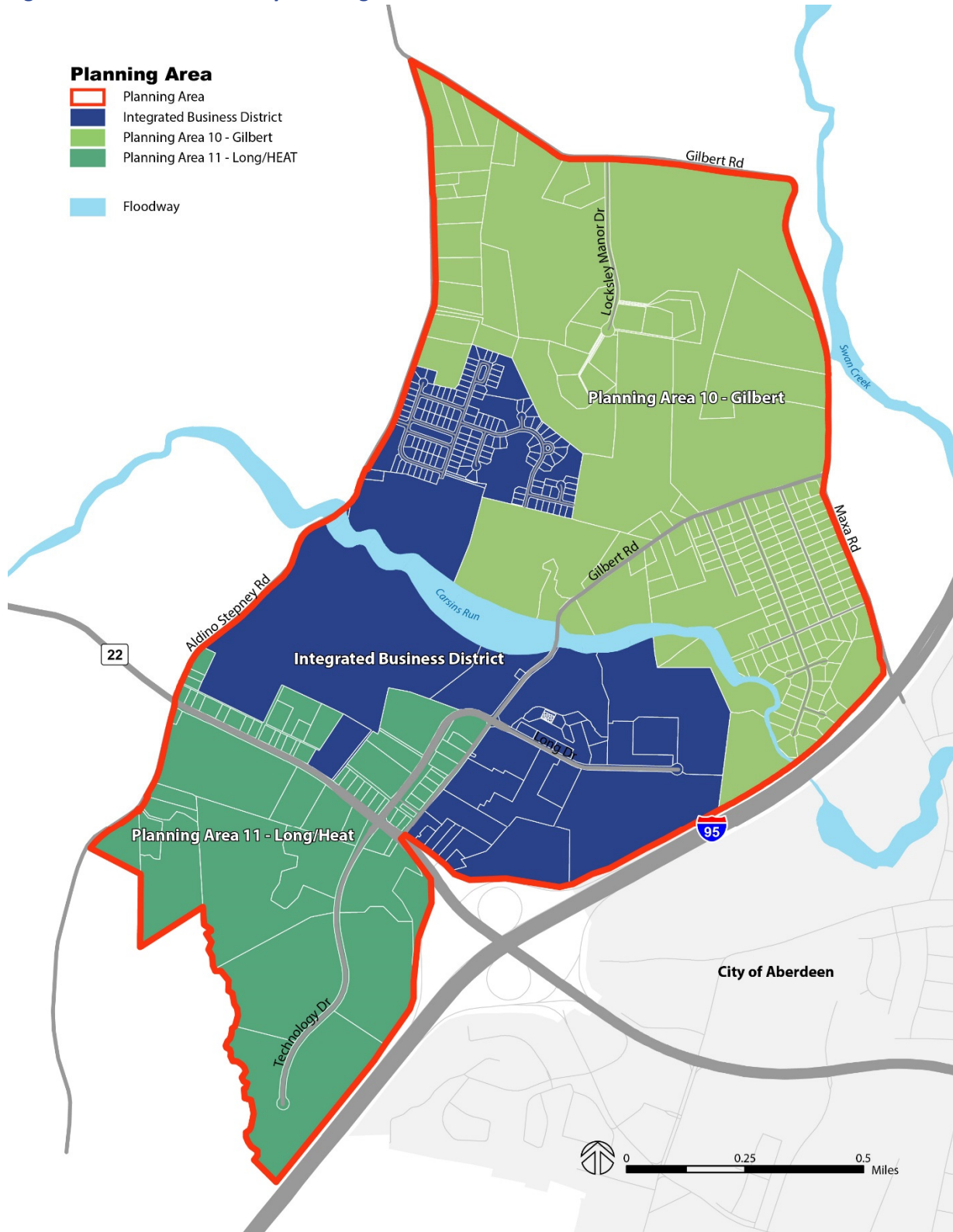
Planning Area 11 – Long/HEAT is an unincorporated growth area south of the Integrated Business District. This area covers approximately 295 acres, bound by the Integrated Business District to the north, Interstate 95 to the east, Aldino Stepney Road to the west, and generally Cranberry Run to the south. This area includes the Battelle facility, Aberdeen Technology Center, and Advanced Manufacturing, Materials, and Processes (AMMP) facility along Technology Drive, as well as the Baker Cemetery along MD 22.



Aberdeen I-95 Area Land Use Study



Figure 1-1. Land Use Study Planning Areas





1.3 Methodology

The following methodology was employed to develop the I-95 Area Land Use Study, as described in the tasks below.

1.4 Project Initiation / Data Collection / Public Participation

The most pertinent data available was thoroughly reviewed and analyzed to develop a comprehensive understanding of the issues that affect each Study Planning Area. Primary activities conducted during this Task are detailed below.

Data Collection and Analysis – Existing Conditions Survey

Data was collected and analyzed from pertinent secondary source data provided by the City of Aberdeen and other applicable agencies relevant to the Planning Areas to conduct a survey of existing conditions. This included data, plans and reports related to current and future planning:

- Description of geographic area and regional context
- History, resources, and background of the study area
- 2011 Comprehensive Plan land use designations
- 2016 Master Plan Harford NEXT land use designations
- Land use, zoning and development standards from the Aberdeen Development Code and Harford County Development Code
- Demographic overview of population and employment
- Aberdeen Proving Ground population, employment and growth
- Survey of existing property attributes such as land use, zoning, property values, housing conditions, commercial uses, and number of residential units
- Infrastructure, including potable water, sanitary sewer, storm drainage, electricity, telecommunications facilities
- Transportation, streets and existing roadway rights-of-way, traffic count data
- Visual survey of the surrounding area's aesthetics and character
- Existing or proposed private developments that impact the Planning Areas
- Existing gateway elements into the City
- Environmental issues or constraints
- Existing commercial and residential real estate market data
- Other pertinent planning documents, and implementation steps that apply to the study area



Base Mapping

Matrix worked with the City of Aberdeen to obtain pertinent GIS data for the creation of base maps for the Master Plan and Land Use Study.

Economic Issues Analysis and Summary

Building upon the data collection and analysis efforts, proprietary economic and market data for the Study Planning Areas was evaluated, specifically concentrating on the economic base of the Study Planning Areas. This activity was performed to complete a site-specific economic development analysis. Development trends research was conducted to evaluate and determine development approaches appropriate for the Planning Areas. The summary of this analysis is provided in Section 1.5 below.

Issues Identification / Visioning

Community outreach and public participation were integral to the Study development. Community outreach activities were timely, comprehensive and efficient. Public Meeting notice postcards and flyers were prepared for the City to deploy through established notice dissemination procedures. Five (5) Public Workshops were held to obtain input from the Planning Commission, Economic Development Commission and the public. During the workshops, key planning issues were identified and a clear vision and goals for the Master Plan and Land Use Study were developed. The Workshops provide input on key issues, opportunities and constraints affecting the Study Planning Areas, and input on key plan elements including type and intensity of future land use, future development form, physical framework for circulation and transportation, site design, public amenities, and economic development. The input provide at the Public Workshops was organized into the following categories:

- Information that informed the overall vision for the future of the Study Planning Areas which is reflected in the Chapter 4 Design Principles
- Information that informed land use and the organization of land use, transportation networks and open space reflected in the Chapter 4 Land Use Plans
- Information that informed design guidelines for different land use areas and the public realm reflected in Chapter 5 Design Guidelines

The Public Workshops and results are detailed in Chapter 2.

Placemaking, Land Plan, Circulation And Design Alternatives

During this phase, the placemaking exercise was conducted and a preferred land use and transportation concept that will be the basis of the Master Plan and Land Use Study was developed.

Development and Evaluation

Two (2) concept plans illustrating Aberdeen's vision for the Study Planning Areas and desired building characteristics were developed. These illustrative plans were used to identify key locations for improvements that achieve the goals and objectives of the vision for the Study Planning Areas and to illustrate how the various elements of the plans work together to create a catalyst environment for future development.



From the concept plans, two (2) land use concepts were developed by synthesizing the results of the data collection analysis, economic analysis and result from the Public Workshops. An evaluation of transportation impacts was conducted to:

- Identify revised traffic volumes for each land use alternative, as well as calculate of potential internal study area capture resulting from any multi-use development
- Identify pedestrian nodes, pedestrian refuge areas, public gathering areas and improvements for collectors and arterials
- Identify bike, pedestrian circulation and transit connectivity, as well as compatibility with regional transportation network plans

Design guidelines were developed including design goals and objectives for site planning and urban design, architectural design, and City gateway improvements.

Draft / Final Master Plan

The Draft I-95 Land Use Study was developed as a single document, provided to the City to review and presented to the City Council. Comments were received from the City and incorporated in the final version of the Land Use Study.

1.5 Study Document Organization

The I-95 Land Use Study Plan is organized in six (6) chapters addressing plan elements. Each element of the Area Plan is interrelated. The I-95 Land Use Study includes the following chapters:

- **Chapter 1, Introduction:** Provides an overview of the I-95 Land Use Study intent and purpose and includes an overview of the growth trends, economic development factors and document organization.
- **Chapter 2, Public Outreach:** Documents the public process in developing the vision for the future physical development of the Planning Areas including the anticipated character of development.
- **Chapter 3, Existing Conditions:** Provides an overview of existing conditions including the Planning Background – Maryland State Priority Funding Areas, Harford County Development Envelope, existing land use, zoning, transportation network, and utility infrastructure, and natural areas.
- **Chapter 4, Land Use Plan:** Outlines the design principles, two Plan Alternatives including land use, greenspace, and transportation circulation for each.
- **Chapter 5, Design Guidelines:** Identifies guidance on design elements to inform the types development and creation of high-quality developments throughout the Study Planning Areas.
- **Chapter 6, Implementation Strategies:** Provides direction on implementation of land use, economic development, transportation improvements, and greenspace improvements.



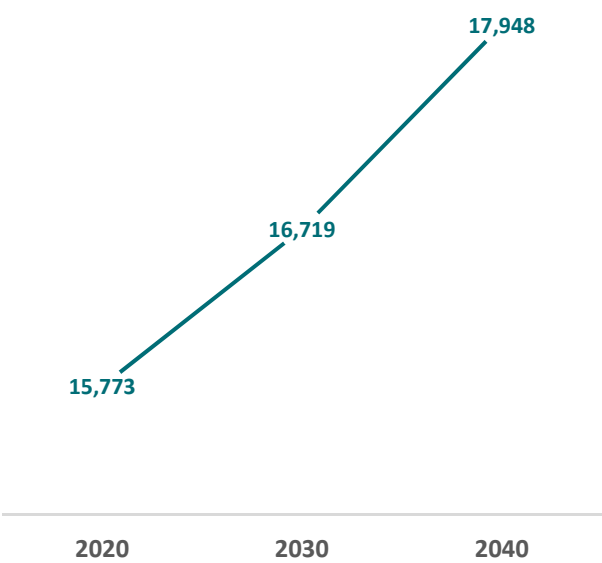
1.5 Growth Factors

Growth in a community is influenced by many complex factors, including both regional and local conditions. Regional and local conditions include population trends, and economic trends, such as supply and demand of housing. Locally, communities can generate growth by supporting a high-quality sense of place that creates an attractive, desirable destination for people to relocate.

Population

Understanding the existing and future population of the community provides context and support for future growth. At a regional level, Harford County is projected to grow by over 15,000 residents between 2017 and 2027, representing a 6 percent population increase (Annual Growth Report). By 2040, the County is projected to have a population of 289,200, representing a 16 percent growth in population. This is a similar trend for Aberdeen, which is also anticipated to have a population growth of 16 percent between 2017 and 2040. This is a population increase of 2,425 residents in Aberdeen, and 39,068 residents in Harford County. Population growth for Aberdeen is shown on **Figure 1-2**, and the population trends for Aberdeen and Harford County are listed in **Table 1-1**.

Figure 1-2. Aberdeen Population Projection



Source: Baltimore Metropolitan Council of Governments Cooperative Projections

Table 1-1 Population and Population Projections for Harford County and Aberdeen

Jurisdiction	2017	2020	2030	2040
Harford County	250,132	257,700	271,850	289,200
Aberdeen	15,525	15,773	16,719	17,948

Source: State of Maryland Historical and Projected Total Population, 2017, Baltimore Metropolitan Council of Governments Cooperative Projections

Housing

An indicator of growth in the community is the supply and demand for housing. In Harford County, residential building permits grew by 3.3 percent from 2016 to 2017. Of these residential permits, 52 percent were for single family detached units, 25 percent were for apartment units, 23 percent were for townhouse units, and >1 percent were for mobile homes. Residential permits in Harford County account for 10 percent of the region's total permit activity. According to the county's 2016 HarfordNEXT Plan, it is estimated that County will need approximately 119,000 housing units to accommodate the projected population growth for 2040. Using the same persons per household as the 2011 Aberdeen Comprehensive Plan to determine housing unit projections, it is anticipated that Aberdeen will need a total of over 7,000 housing units to meet demand by 2040. According to the Planning Commission Annual Report, in 2017, the City of Aberdeen issued 18 residential permits for single family dwellings.

As of 2011, Aberdeen had 477 acres, or 158 parcels, available for development. This yields to a household capacity of 1,851, which would meet the housing demand of the future population. At present, Aberdeen has 6,335 housing units. Of these units, 7.5 percent are vacant, which is slightly higher than the housing vacancy in Harford County. Of the housing that is occupied, approximately 63 percent is owner-occupied, and 37 percent is rental. In 2010, the housing characteristics in Aberdeen were similar, indicating that housing trends have not changed in previous years. The high amount of renter occupied units can relate to different factors, including cost (i.e., demographics, market availability, etc.). Housing characteristics for Aberdeen and Harford County are listed in **Table 1-2**.

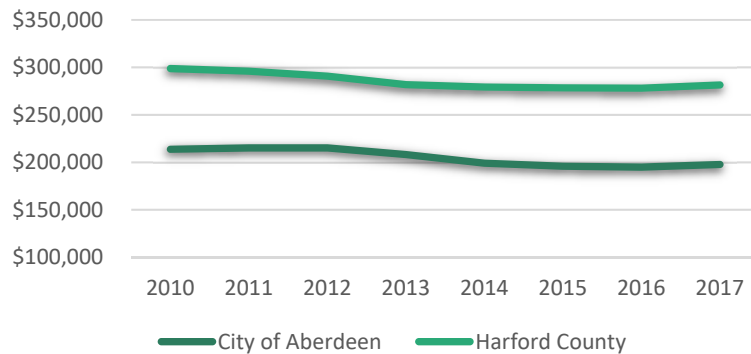
Table 1-2 Housing Characteristics - 2010, 2017

Housing Characteristic	2010				2017			
	Aberdeen		Harford County		Aberdeen		Harford County	
	Count	Percent	Count	Percent	Count	Percent	Count	Percent
Total Units	6,191	-	95,554	-	6,335	-	98,853	-
Vacant Units	390	6.3%	5,336	5.6%	475	7.5%	5,958	6.0%
Occupied Units	5,801	93.7%	90,218	94.4%	5,860	92.5%	92,895	94.0%
Owner Occupied Units	3,565	61.5%	71,831	79.6%	3,674	62.7%	73,027	78.6%
Renter Occupied Units	2,236	38.5%	18,387	20.4%	2,186	37.3%	19,868	21.4%

Source: 2010 Census, 2017 ACS 5-Year Estimates

Housing values in both Aberdeen and Harford have decreased between 2010 and 2017, according to the 2017 American Community Survey (ACS) 5-year estimates. Between 2010 and 2017, the housing values have decreased by -7.5 percent in Aberdeen and -5.8 percent in Harford County. Presently, Aberdeen has a lower median housing value (\$197,800) than Harford County (\$281,400). Housing value trends are shown on **Figure 1-3**.

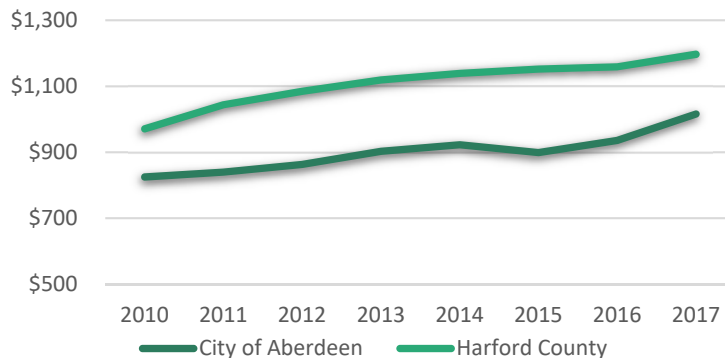
Figure 1-3. Median Household Values, 2010 - 2017



Source: 2017 ACS 5-Year Estimates

Although housing values in the community have historically been decreasing, the median gross rents for Aberdeen and Harford County have both increased by approximately 23 percent from 2010 to 2017. **Figure 1-4** shows the rent value trends for Aberdeen and Harford County.

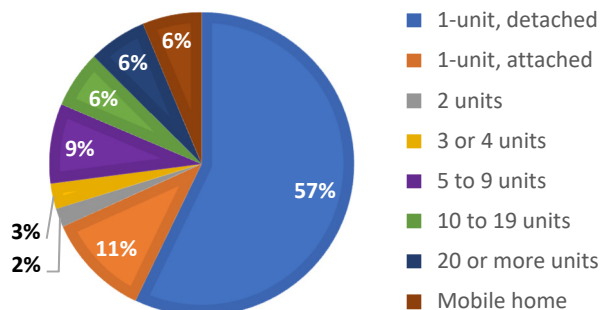
Figure 1-4. Median Gross Rent Trends, 2010 – 2017



Source: 2017 ACS 5-Year Estimates

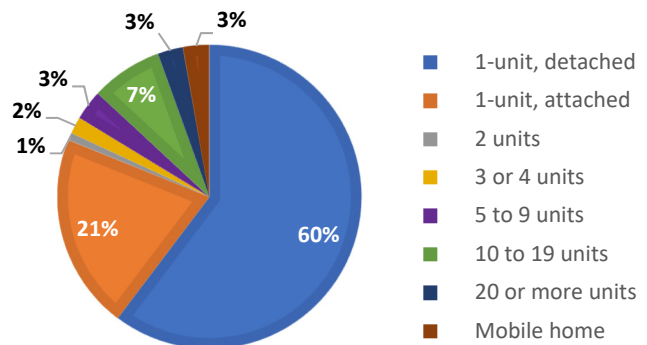
A housing factor to consider for future growth is housing diversity. Currently, housing in Aberdeen and Harford County largely comprise single family detached homes. As shown on **Figures 1-5** and **1-6**, approximately 60 percent of the housing stock in Aberdeen and Harford County are single family units. Developing a diverse housing stock in the community can help attract new residents to the area, attract those who currently commute to Aberdeen for work, and provide opportunities for residents to age-in-place – stay within the community throughout different life stages.

Figure 1-5. Aberdeen Housing Units, 2017



Source: 2017 ACS 5-Year Estimates

Figure 1-6. Harford County Housing Units, 2017



Source: 2017 ACS 5-Year Estimates

1.6 Economic Development Trends

Economic development in the region is diverse with businesses and employers spanning many industries.

Employment Trends

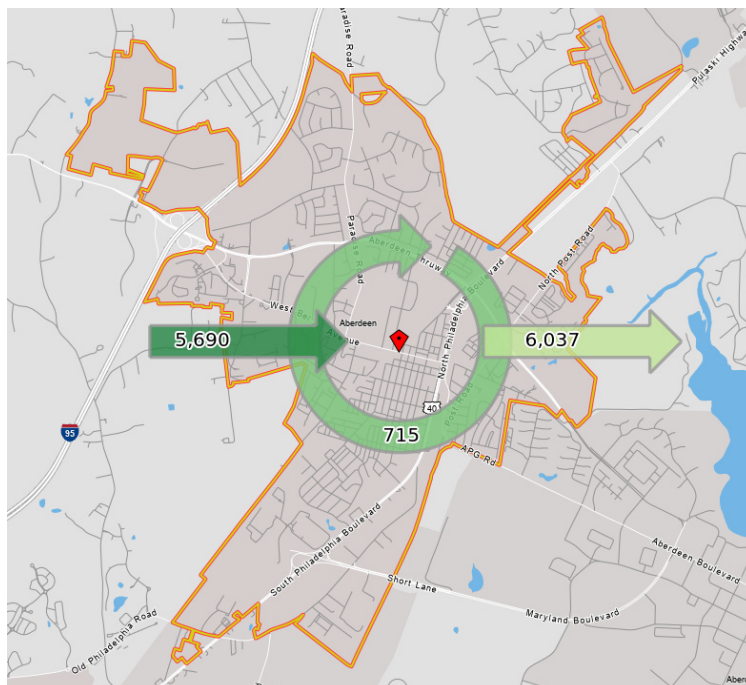
In Aberdeen proper, there is approximately 8,237 employed workers; however, within a 30-mile radius there is an additional labor force of 1,268,988 from which Aberdeen employers can draw.¹ As shown on **Figure 1-7**, most Aberdeen residents (6,037) commute outside of Aberdeen for their job, while 715 residents both live and work in Aberdeen. A total of 5,590 people commute to Aberdeen for employment. The inflow of employees into Aberdeen presents an opportunity to increase the number of residents who both live and work in the city, especially as economic growth continues in the city and the region.

Utilizing employment data from Economic Modeling Specialist, Inc.

(EMSI), the Aberdeen region is projected to grow its employment base at a greater rate than the surrounding regions (Harford County and Baltimore MSA).

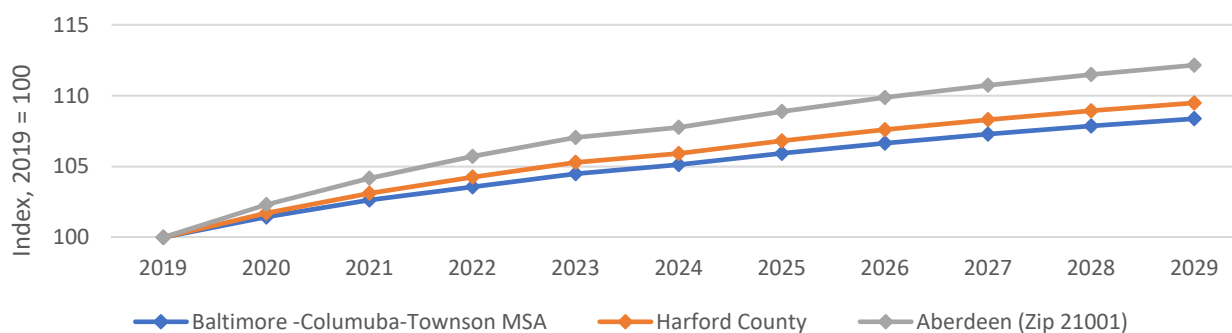
Figure 1-8 presents the indexed growth rates for each region.

Figure 1-7. Inflow and Outflow of Employees in Aberdeen



Source: US Census Bureau OnTheMap, 2015

Figure 1-8. Employment Growth of Aberdeen Relative to Surrounding Region



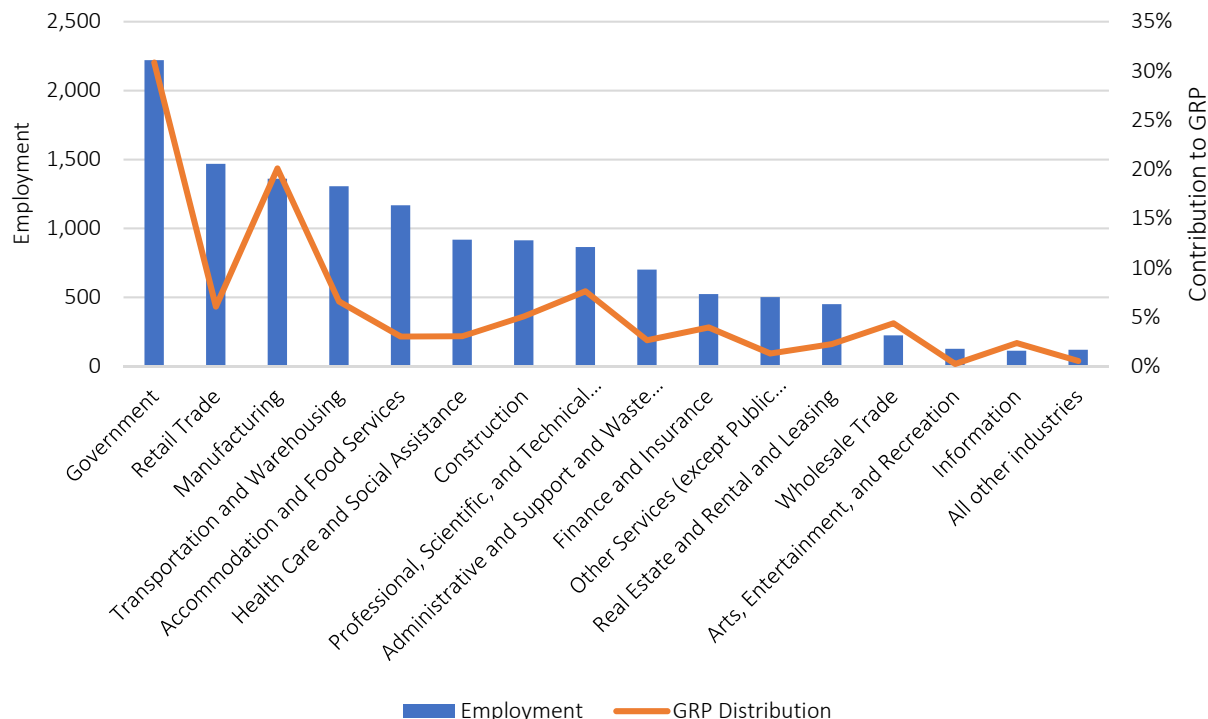
¹ City of Aberdeen: <https://www.aberdeenmd.gov/economic-development/why-aberdeen/pages/major-industry-and-workforce>

Aberdeen I-95 Area Land Use Study

Through 2029, Aberdeen is projected to grow approximately 12 percent compared to roughly 9 percent for both Harford County and the Baltimore MSA. While starting from a much smaller employment baseline, Aberdeen's expected growth is encouraging given the larger and more diversified economies of Harford County and Baltimore MSA.

Figure 1-9 presents the 2019 industrial make-up of Aberdeen's economy.² The blue bar represents employment (number of jobs) and the orange line presents that industry's contribution to gross regional product (GRP).³ The size of Aberdeen's economy, as measured by GRP, is approximately \$1.4 billion. Government is the largest employer in the region as well as the largest contributor to the economy at roughly 2,200 jobs and 31 percent of GRP. While Retail Trade and Manufacturing employ similar number of workers, Manufacturing contributes 20 percent to the region's economy compared to 5 percent for Retail Trade. This is expected as Manufacturing, as can be seen in Table 1-3, generates greater exports for the region and provides substantially higher earnings per worker – both critical components to GRP and economic growth. The remaining industries make-up approximately 61 percent of all employment while contributing only 43 percent to GRP, thus demonstrating the outsized importance of Government and Manufacturing to the Aberdeen economy. Combined, both industries employ 28 percent of all workers while contributing over 50 percent of all value-added economic production.

Figure 1-9. Aberdeen (Zip 21001) Employment and Contribution to Gross Regional Product by Industry, 2019



Source: EMSI, Dataset 2019.4 - Class of Worker: QCEW; Non-QCEW; Self-Employed; Extended Proprietors

² Zip code 21001 is used as a proxy for Aberdeen. While it does include more than just Aberdeen proper, more detail economic data is provided at the zip code level rather than the city level. As such, the zip code level data used for much of our economic analysis.

³ Gross regional product is total value of all goods and services produced in the region. It capsulate the entirety of the region's economy.

Table 1-3 presents the projected industrial performance within the Aberdeen (Zip 21001) region. Through 2029, Manufacturing, Transportation & Warehousing, and Healthcare & Social Assistance are projected to add the most number jobs at 603, 549, and 340, respectively. With respect to earnings per job, Government (local, state, and federal jobs), Professional, Scientific, & Technical Services, and Management of Companies & Enterprises each generate over \$100,000 per job. Finally, those industries with greater levels of exported sales have greater impacts on the region per worker as they attract new dollars to the economy. When considering all three components (employment growth, earnings, and exports), Manufacturing, Transportation & Warehousing, and Government are projected to be the top performing industries within the Aberdeen region through 2029.

Table 1-3 Industrial Performance, Aberdeen (Zip 21001)

Description	10 Yr. Job Growth	Avg. Earnings Per Job	2018 % Exported Sales
Manufacturing	603	\$74,941	98%
Transportation and Warehousing	549	\$57,690	85%
Health Care and Social Assistance	340	\$37,935	58%
Accommodation and Food Services	236	\$21,544	39%
Government	177	\$133,546	97%
Administrative and Support and Waste Management and Remediation Services	164	\$32,754	66%
Retail Trade	142	\$34,154	81%
Construction	132	\$60,601	74%
Professional, Scientific, and Technical Services	70	\$100,256	62%
Arts, Entertainment, and Recreation	41	\$19,279	52%
Educational Services	40	\$13,634	88%
Other Services (except Public Administration)	35	\$30,704	47%
Real Estate and Rental and Leasing	27	\$35,527	44%
Finance and Insurance	17	\$50,283	72%
Management of Companies and Enterprises	(14)	\$134,099	97%
Information	(26)	\$77,651	55%
Wholesale Trade	(214)	\$56,778	83%

Source: EMSI, Dataset 2019.4 - Class of Worker: QCEW; Non-QCEW; Self-Employed; Extended Proprietors

Employment Sectors

Aberdeen has a diverse mix of sectors, creating employment opportunities for over 20,000 employees. **Table 1-4** lists Aberdeen's largest employers.

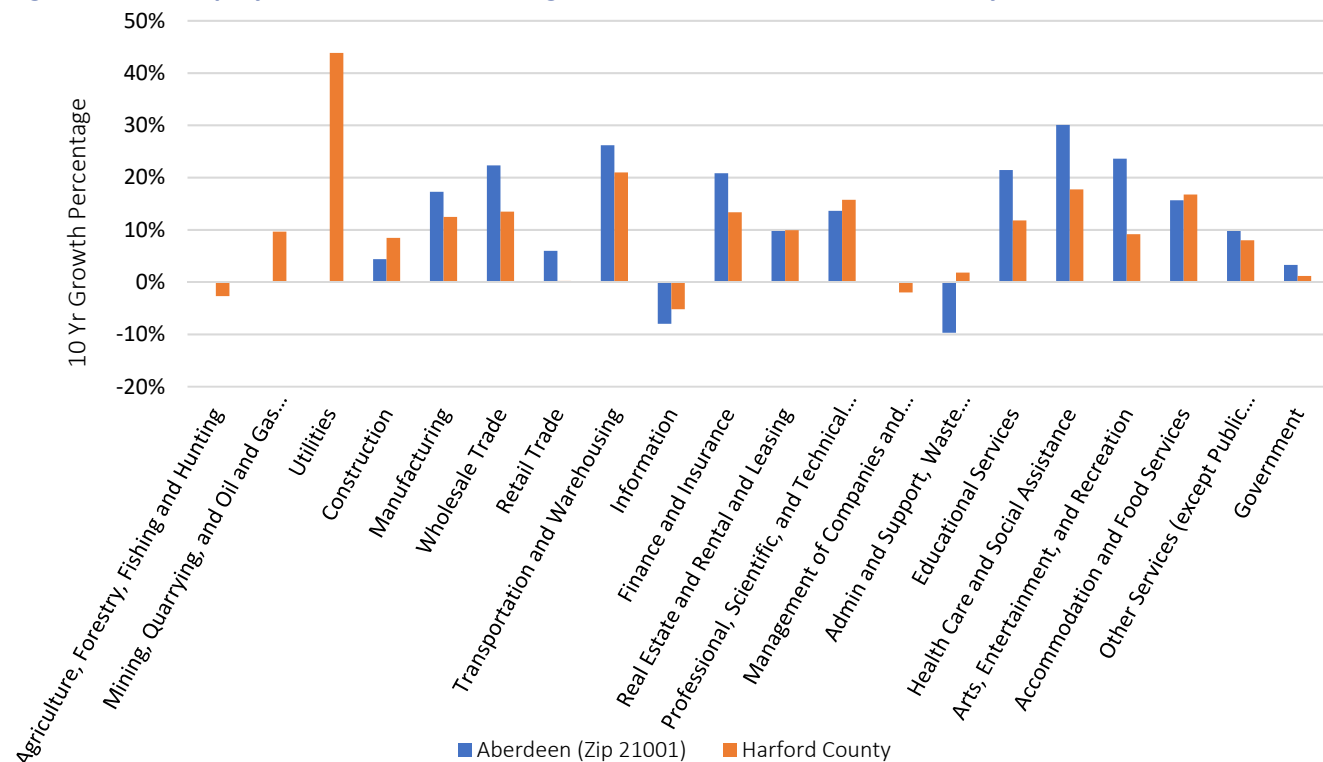
In 2019, the top employment sector in Aberdeen was Government, which corresponds to the top employer, Aberdeen Proving Ground. **Figure 1-10** shows the growth percentages between Aberdeen zip code 21001 and Harford County. The growth trends of employment sectors in both Aberdeen and Harford County represent the projected growth over the next ten years that was presented in Figure 1-10. As we see Health Care & Social Assistance is forecasted to grow by 30 percent throughout Aberdeen (Zip 21001), this is partly attributed to the University of Maryland Upper Chesapeake Health's new medical campus.

Table 1-4 Aberdeen's Top Employers

Employer	Number of Employees
Aberdeen Proving Ground	21,000
Frito-Lay	800
Pier One Imports	230
C&S Wholesale Grocers	200+
Northrop Grumman	100+
KBRWyle	100+
Benfield Electric	100+
UPS	100+

Source: City of Aberdeen, 2019

Figure 1-10. Employment Growth Percentages for Aberdeen and Harford County from 2019 to 2029



Source: EMSI, Dataset 2019.4 - Class of Worker: QCEW; Non-QCEW; Self-Employed; Extended Proprietors

Recreation and Tourism

Although not a top employment sector, Aberdeen has an outdoor tourism economy, due in part to the Ripken Experience – Aberdeen, which holds baseball and softball tournaments at the Cal Ripken Sr. Yard and surrounding fields. In 2018, there were 36 events related to baseball tournaments, generating approximately 241,000 attendees. Overall baseball events and associated attendees has been experiencing a slight decrease from 2016 to 2018, as shown in **Table 1-5**. Nevertheless, baseball events still generate an average of approximately 30,000 hotel room nights a year.

Adjacent to the Cal Ripken Sr. Yard is Cal Ripken Stadium that has an attendee capacity of 6,300, adding to the recreation and tourism economy.

Table 1-5 Baseball Tournament Summary

Category	2016	2017	2018
Total Events	43	38	36
Total Attendees	269,200	273,400	240,8020

Source: Economic and Fiscal Impact Analysis for Select Outdoor Sports Tournaments Held in Harford County, Maryland, Crossroads Consulting, 2019

Regional Office and Retail Space Demand

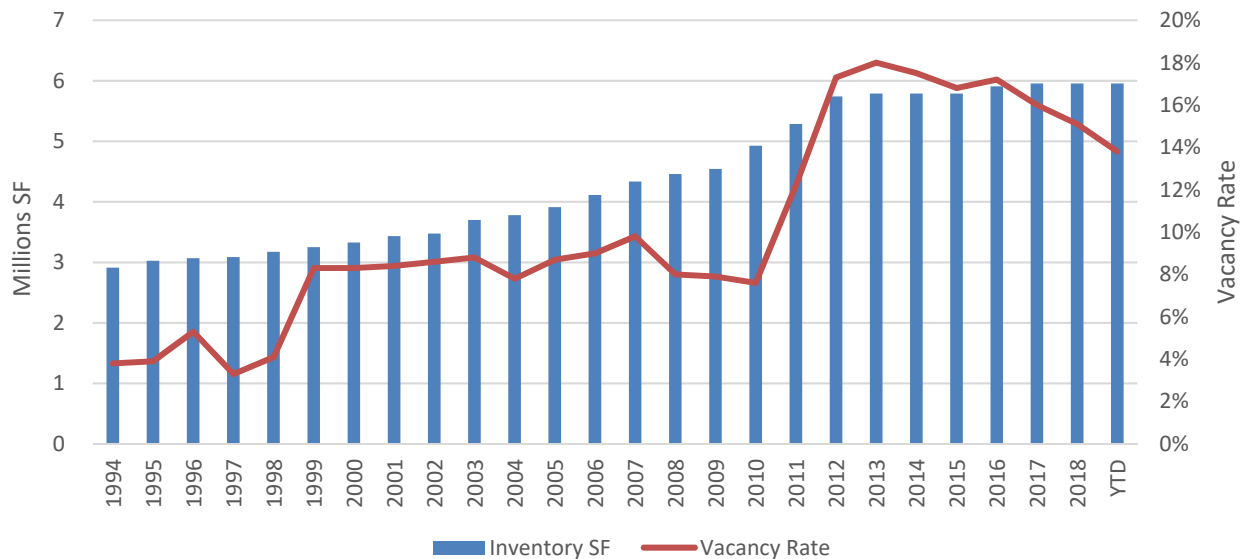
Understanding the demand for commercial space (office and retail) requires an assessment of their individual drivers. For office space we utilize the forecasted employment growth in certain industries, while retail product is driven by demographic changes, drive-times, and retail consumption levels.

Office Product Demand

Beginning with office demand, **Figure 1-11** presents the performance of the office space market throughout Harford County. As the figure shows, an increasing amount of inventory has been added since 1994. Through 2010, as product is added, vacancy rates remained relatively stable between 6 percent and 10 percent. Since 2010, however, 1 million square feet of product has been developed with vacancy rates jumping significantly to roughly 18 percent in 2013. Since then, market demand has slowly caught-up with development and vacancy rates have declined to under 14 percent through 2019.

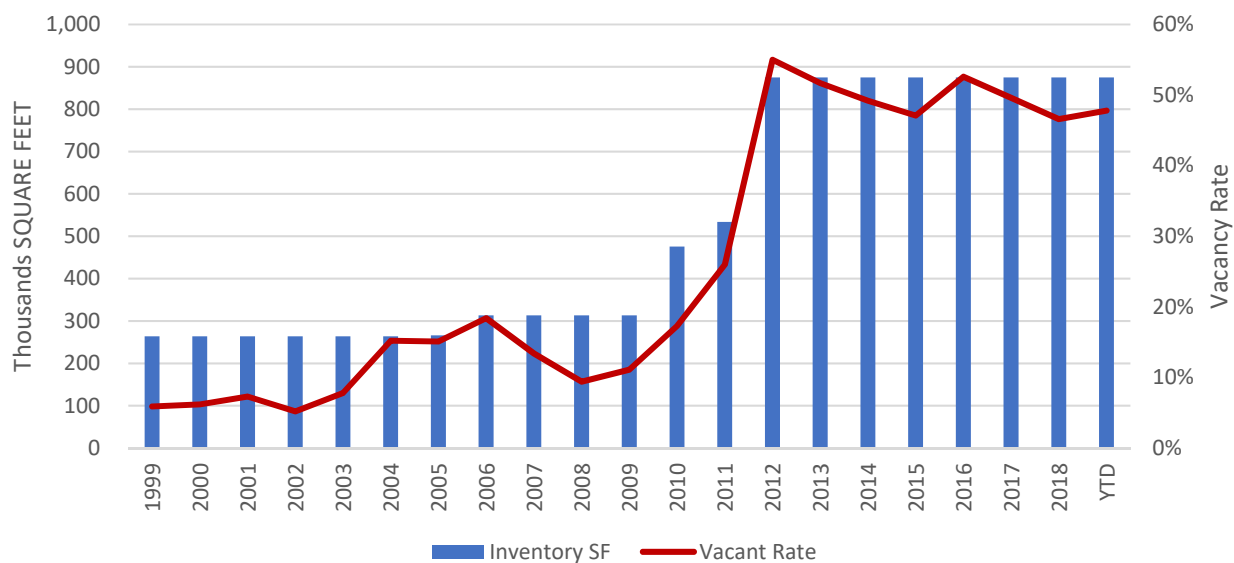
As a comparison, **Figure 1-12** examines the office space market throughout the Aberdeen region (Zip 21001). Here, office inventory and vacancy remained stable at roughly 300,000 square feet and between 10 percent and 20 percent through 2009. Between 2010 and 2012, approximately 600,000 square feet of office product was brought online with vacancy rates jumping to over 50 percent by 2012. Since then, demand for office space has remained flat with vacancy rates slightly below the 50 percent mark.

Figure 1-11. Office Inventory vs Vacancy Rate, Harford County



Source: CoStar, 2019

Figure 1-12. Office Inventory vs Vacancy Rates, Aberdeen (Zip 21001)



Source: CoStar, 2019

While a significant amount of vacant office space exists in both Harford County and the Aberdeen region, new employment growth in office-related industries is projected to absorb much of this excess supply through 2040. **Table 1-6** presents the 20-year employment growth projections for each of the eight industry that drive demand for office product. Harford County is projected to added approximately 13,400 jobs with the Aberdeen region adding nearly 1,200. Major drivers for both regions are Healthcare & Social Services, Professional,

Scientific, & Technical Services, and Finance & Insurance industries, while a few smaller industries are projected to decline or remaining flat through 2040.

Table 1-6 New-new Employment Growth for Office-related Industries

Industrial Sectors Driving Demand for Office Space, 2019	Harford County 2020 - 2040 Net New Jobs	Aberdeen (21001) 2020 - 2040 Net New Jobs
Health Care and Social Assistance	5,565	676
Professional, Scientific, and Technical Services	4,022	266
Finance and Insurance	1,700	255
Real Estate and Rental and Leasing	1,488	97
Educational Services	505	42
Administrative and Support and Waste Management and Remediation Services	212	(135)
Management of Companies and Enterprises	(10)	-
Information	(88)	(18)
Total	13,395	1,185

Source: EMSI, Dataset 2019.4 - Class of Worker: QCEW; Non-QCEW; Self-Employed; Extended Proprietors

Given this demand and the regional glut in office product, Harford County is projected to see a net-new demand for office of 1.2 million square feet by 2040.⁴ The Aberdeen region, however, is projected to see no net-new demand for regional office product. This is due to the severe over development of office product throughout the Aberdeen region at nearly 420,00 square feet. Aberdeen's vacant space constitutes approximately 50 percent of the entire county's vacant product. **Table 1-7** presents a summary of the above analysis.

⁴ The 1.2 million square feet projection assumes the absorption of the current vacant space and a space requirement of 150 square feet per worker.

Table 1-7 Office Demand by Square Footage, 2020 - 2040

Region	Inventory Square Feet	Vacant Square Feet	2020 - 2040 Demand	2020 – 2040 Net-New Demand
Harford County	5,953,874	(819,561)	2,009,276	1,189,715
Aberdeen 21001	874,831	(418,323)	177,678	(240,645)

Source: CoStar, EMSI, Author's Calculations

Retail Product Demand

Forecasting demand for retail product requires an assessment of demographics and retail consumption patterns throughout various retail trade areas. Retail trade areas are used as retail consumption is driven by both disposable income and proximity to consumers. Typically, consumers prefer to drive roughly 15-minutes from their homes / work to consume. For this study, drive-times of 5, 15, and 30 minutes from the intersection of Gilbert Road and Long Drive located within the three planning districts are developed. **Figure 1-13** below presents the geographic coverage for each drive-time. The green region represents the 5-minute trade area, with the blue and beige regions representing the 15-minute and 30-minute regions, respectively. As can be seen from the map, these drive-times exist as concentric regions with increasing number of potential consumers as the drive-time expand.

Table 1-8 presents a summary of each region's demographics and retail consumption behavior. As can be seen from the data, the median disposable income throughout the 15-minute drive-time is approximately 8 percent higher than the 5 and 30-minute regions; however, Harford County's median disposable income is 10 percent higher than the 15-minute drive-time. When looking at the Retail Sales Analysis section of the table, given the consumption patterns (demand) and current retail development (supply) within each region, there appears to be little demand for retail product within the three planning districts as of 2019 for each of the drive-time regions. However, the County shows positive demand for retail product of approximately 1.1 million square feet. Currently, this demand is being met from retail options both inside and outside of the County.

For retail to be successful within the planning districts under evaluation, it is critical to draw consumers from other portions of the County, whereby bringing retail options closer their place residence (population density). Through 2040, pending other retail development throughout the County, it is estimated the three planning districts can capture approximately 20 percent of the County retail demand. Assuming a sales per square foot figure of 475, the future retail development within the planning district can reasonable support approximately 225,000 square feet of retail product throughout the 20-year development horizon.

Figure 1-13. Retail Trade Areas

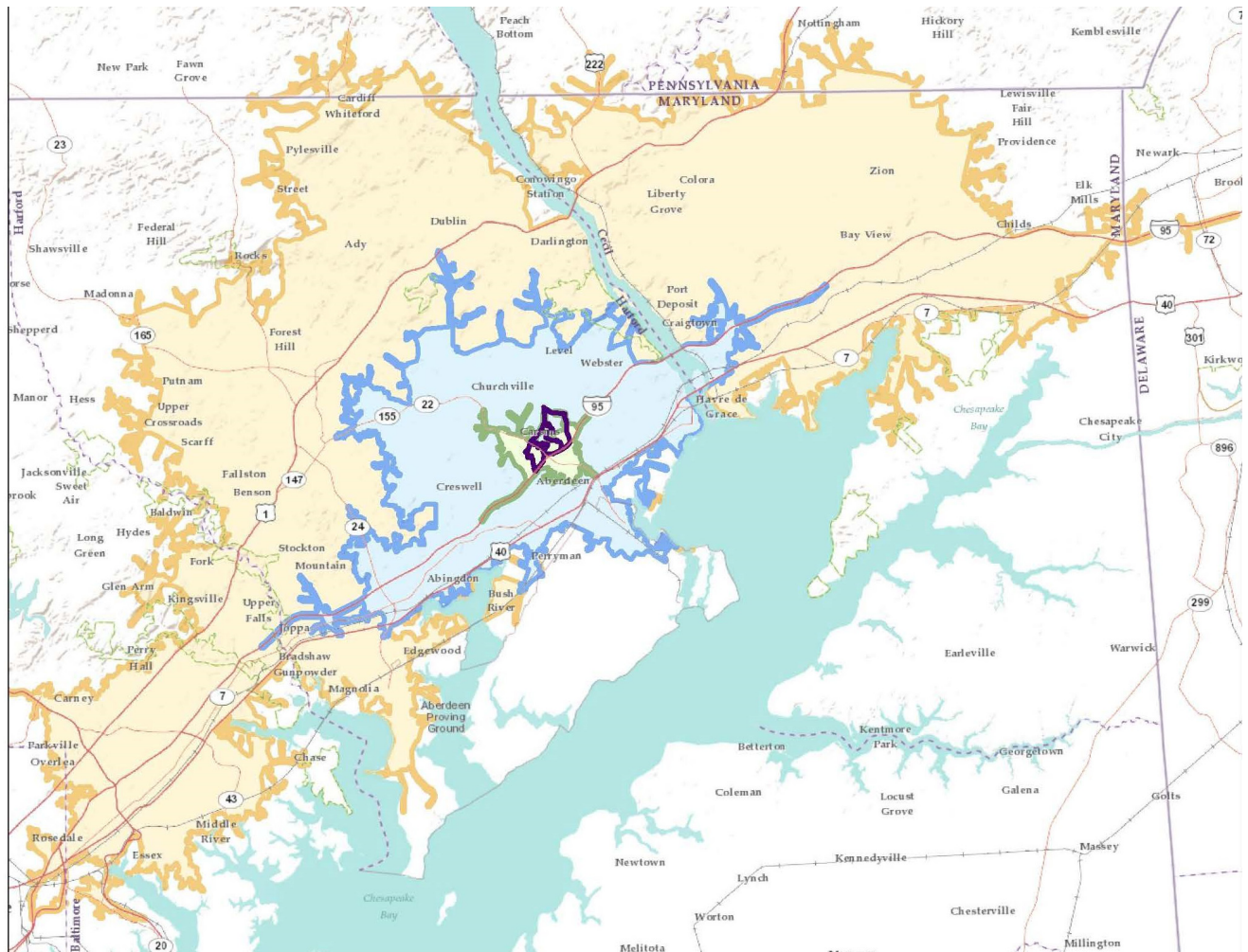


Table 1-8 Retail Sales Gap Analysis by Drive-time and Harford County, 2019

Demographics	5 Minute	15 Minute	30 Minute	Harford County
Total Population	4,939	88,771	386,293	259,422
Total Households	2,007	33,312	147,068	95,657
Household Size	2.46	2.66	2.63	2.71
Median Age	39	38	39	41
Median Household Income	\$61,949	\$80,850	\$74,236	\$89,041
Median Disposable Income	\$47,049	\$57,707	\$55,427	\$60,443
Retail Activity				
Annual Average Retail Demand (HH)	\$32,658	\$41,523	\$40,001	\$44,707
Annual Average Retail Supply (HH)	\$87,055	\$41,403	\$47,287	\$39,103
Retail Gap Per Household	-\$54,397	\$121	-\$7,286	\$5,604
Retail Sales Analysis (Millions USD)				
Demand	\$65.55	\$1,383.23	\$5,882.85	\$4,276.50
Supply	\$174.72	\$1,379.20	\$6,954.43	\$3,740.46
Gap	-\$109.17	\$4.03	-\$1,071.58	\$536.04
Supportable SQUARE FEET (2019)	(229,841)	8,478	(2,255,960)	1,128,497
Supportable SQUARE FEET for Site (2020 – 2040)	225,699			

Source: ESRI Market Place; Demographics Now; Author's calculations



Relationship Between Development and Growth

The growth trends described in the previous sections detail current factors that are contributing to growth in the region and community. Although these factors were determined based on existing trends, there are other factors that may also influence development and growth in the future. These include the following:

Growth Due to Existing Employment: This type of growth will occur as employment opportunities emerge in the area. New opportunities in employment could attract additional employees who relocate to the area to be close to work. Due to its location and employers, Aberdeen is well positioned to attract industry employees who are looking to relocate closer to their workplace. This makes it increasingly important to have a range of housing available in Aberdeen.

Growth Due to New Housing: This type of growth may occur as new residential development and / or units are constructed to accommodate an increase in population, such as due to employment growth. As new housing is built, services and amenities will be needed to accommodate demand from new residents. This could include commercial demand, including retail.

Growth Due to Amenities: This type of growth may be related to new employment and residential development opportunities that spur new amenities for the community. Quality amenities have the potential to attract people to the area who are looking to relocate locally or within the same region. Such amenities include quality public spaces such as parks and open spaces and high quality developments that provide a destination experience.

2. Public Outreach

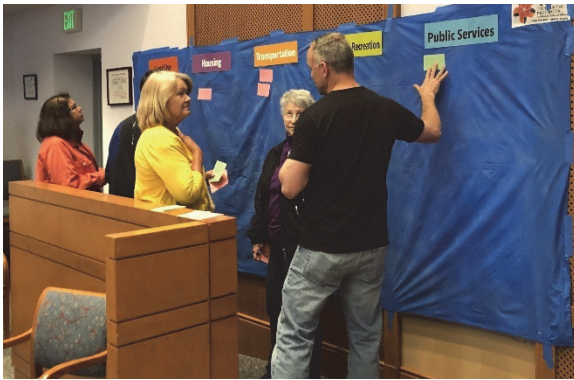
Public outreach and participation are critical in creating a community-driven plan. Because this Study ultimately belongs to the Aberdeen community, broad participation was necessary to shape the development of the Plan. To encourage robust participation, a series of five public workshops were held at the onset of the planning process. These workshops sought public input on the issues, opportunities, and constraints influencing development within the Study Planning Areas, as well as their desired vision for future growth. The following is a summary of the five workshops that informed the development of the Study.

2.1 Public Workshops

A series of five public workshops were held between April 10, 2019 and April 18, 2019. A total of 65 people attended and participated in the workshops. Attendees came from across Aberdeen and throughout Harford County. Each workshop began with a presentation introducing the project and a summary of each Planning Area. Following this presentation, three exercises were conducted to gather input from participants. These exercises were a Blue Wall Exercise, Wall Mapping Exercise, and a Visual Preference Survey. The results of these exercises are presented on the following pages.



Blue Wall Exercise



The Blue Wall Exercise asked participants to brainstorm specific issues and opportunities they feel are important to address in the Plan. Participants were asked to write issues on red index cards and opportunities on green index cards. The issues and opportunities were then sorted into one of five categories: Land Use, Housing, Transportation, Parks & Recreation, and Public Services and posted on a blue wall for viewing. **Table 2-1** summarizes the common issues and opportunities identified across the five public workshops.

Table 2-1 Blue Wall Exercise Summary Results

Issues	Opportunities
Land Use	
<ul style="list-style-type: none"> ■ Not enough retail shopping in area ■ Empty office spaces ■ Future development could cause loss of natural areas and wildlife habitats ■ Big box stores are undesirable ■ The “Small-Town Feel” is threatened by development 	<ul style="list-style-type: none"> ■ Protect natural areas to preserve the open feel of the community ■ Potential for quality retail shops and restaurants ■ Repurpose vacant office building ■ Proximity to the Interstate 95 interchange with MD 22 provides great development potential
Housing	
<ul style="list-style-type: none"> ■ Need more housing diversity ■ Existing roadways do not have capacity to handle high-density housing development 	<ul style="list-style-type: none"> ■ Potential to attract personnel working at Aberdeen Proving Ground ■ Need additional housing to meet market demand
Transportation	
<ul style="list-style-type: none"> ■ Narrow roads won’t be able to handle future traffic if planning area develops ■ Lack of sidewalks and pedestrian paths ■ Lack of bike lanes ■ Traffic congestion ■ Road safety ■ Need for a light at Aldino Stepney Road and MD 22 	<ul style="list-style-type: none"> ■ Potential for an attractive gateway into Aberdeen on MD 22 ■ Access to Interstate 95 ■ Public Transit in planning area



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Table 2-1 Blue Wall Exercise Summary Results (continued)

Issues	Opportunities
Parks & Recreation	
<ul style="list-style-type: none">■ Lack of complete recreational facilities and organized parks	<ul style="list-style-type: none">■ Potential for future parks, walking trails, and open spaces■ Recreational nature and community center■ Utilize forest conservation areas as open spaces for recreation, such as nature trails and picnics
Public Services	
<ul style="list-style-type: none">■ Failing wells and septic systems in Adams Heights■ Flooding	<ul style="list-style-type: none">■ Ability to provide water and sewer to future developments

Wall Mapping Exercise

The Wall Mapping Exercise asked participants to geographically identify issues, concerns, assets, and opportunities within the Study Planning Areas, then apply a red or green post-it notes on the wall map in the location they represent with their comment. Red post-it notes represented issues and concerns, and green post-it notes represented assets and opportunities. **Table 2-2** lists the highlighted comments from the Wall Mapping Exercise.



Table 2-2 Wall Mapping Exercise Summary Results

Issues and Concerns	Assets and Opportunities
<ul style="list-style-type: none"> ■ Widen Gilbert Road bridge across Carsins Run ■ Difficulty entering and exiting Baker Cemetery ■ MD 22 bottlenecks creating traffic congestion ■ Deforestation at the north-east corner of MD 22 and Gilbert Road ■ Prevent buildings in wetlands ■ Planning Area 10 does not have public water and sewer connections ■ Need additional connectivity across Interstate 95 for overflow traffic ■ Aldino Stepney Road is too narrow ■ Congestion concern at Interstate 95 on- and off-ramps ■ Flooding from Carsins Run near Aldino Stepney Road ■ Flooding from Carsins Run at Gilbert Road ■ Flooding near Gilbert Road and Old Robin Hood Road intersection ■ Need for a traffic signal at MD 22 and Aldino Stepney Road intersection ■ Concern about the capacity of Gilbert Road near the intersection with Old Robin Hood Road ■ Bike and pedestrian safety concerns 	<ul style="list-style-type: none"> ■ Integrate housing with Wetlands Golf Course ■ Buffer Baker Cemetery with green space ■ Potential gateway into Aberdeen near MD 22 and Aldino Stepney Road ■ Wetlands Golf Course is an asset ■ Potential to develop Wetlands Golf Course ■ Park and recreation opportunity along Carsins Run ■ Development potential along MD 22 ■ Potential for additional recreational opportunities at Cal Ripken Sr. Yard and baseball fields ■ Presence of wildlife ■ Ripken Stadium ■ Economic development opportunities along Technology Drive ■ Potential to adaptively reuse the vacant Fieldside Commons office building ■ Sports facilities surrounding Ripken Stadium support sports tourism ■ Research and development mixed use opportunities along MD 22 ■ Potential for solar development over vast parking lot adjacent to Ripken Stadium



Visual Preference Survey



The last exercise was a Visual Preference Survey, which involved a series of 17 questions across three broad topics—land use, transportation, and parks and recreation. Each question featured photos or graphics of the built environment. Participants were asked to choose the option that they prefer most out of the images presented using an electronic polling device, which provided real-time results. **Table 2-3** displays the cumulative Visual Preference Survey results across the five workshops. Selections within blue boxes represent the highest scoring results for each set of images. Where there is not a significant range in scores, all highest ranking scores are boxed.

Table 2-3 Visual Preference Survey Summary Results (continued on next page)


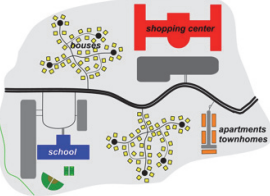
Transportation Network	Total	%
Town and County 	48	65%
Suburban 	26	35%

Table 2-3 Visual Preference Survey Summary Results (continued)

Streets	Total	%	Boulevards	Total	%
Narrow Streets 	39	53%	Wide Boulevard 	21	29%
Wide Streets 	34	47%	Medium-Width Boulevard 	35	48%
			No Boulevard 	17	23%



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Table 2-3 Visual Preference Survey Summary Results (continued)








Sidewalks	Total	%	Sidewalk Material	Total	%
Wide Sidewalk 	18	29%	Brick 	11	17%
Medium-Width Sidewalk 	35	56%	Concrete 	41	65%
Narrow Sidewalk 	3	5%	Asphalt 	6	10%
No Sidewalk 	7	11%	No Sidewalk 	5	8%

Table 2-3 Visual Preference Survey Summary Results (continued)

Sidewalk Corners	Total	%	On-Street Bicycle Facilities	Total	%
Sloped both crossings 	35	48%	Grade Separation 	15	20%
Sloped with median 	16	22%	Striped Separation 	23	31%
Bump Out 	13	18%	Striped Separation with Physical Element 	19	26%
No Sidewalk, No Crossing 	9	12%	No Separation 	17	23%

Table 2-3 Visual Preference Survey Summary Results (continued)

Off-Street Bicycle Facilities	Total	%	Street Lighting	Total	%
Paved Trail 	21	28%	Pedestrian-scale lantern lighting 	29	39%
Gravel but Maintained Trail 	34	46%	Pedestrian-scale cobra head lighting 	28	37%
Wide Open Trail 	9	12%	Traditional height cobra head lighting 	10	13%
Rural, Rustic Gravel Trail, Unimproved 	10	14%	No lighting 	8	11%

Table 2-3 Visual Preference Survey Summary Results (continued)

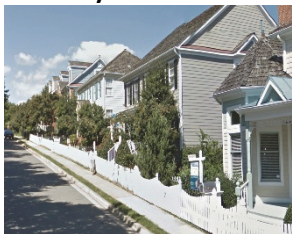







Single-Family Residential	Total	%	Multifamily Housing	Total	%
Zero lot line, tight side yards, no driveway 	9	9%	Duplex 	37	34%
Small front median, tight sideyards, no driveway 	34	33%	Rowhouse 	28	26%
Deep front yard, driveway 	37	36%	Multi-family, single family house design 	30	28%
Large lot, driveway 	23	22%	Block building 	14	13%







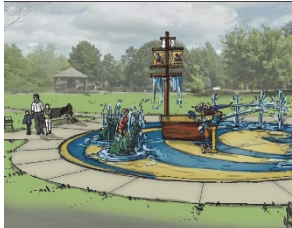
Table 2-3 Visual Preference Survey Summary Results (continued)

Commercial Development	Total	%	Commercial Development	Total	%
Large parking lot in front 	6	8%	Development up to street 	17	20%
Pedestrian access, limited front parking 	6	8%	Wide sidewalk, wide vehicle lanes 	11	13%
Pedestrian access, on-street and rear parking 	21	28%	Courtyard square 	54	62%
Large retail integrated in pedestrian-scale complex 	42	56%	Separated parking across drive aisle from building 	5	6%

Table 2-3 Visual Preference Survey Summary Results (continued)

Mixed Use	Total	%	Office / Employment	Total	%
Grand entry, parking in rear 	11	15%	Surrounded by large parking lot 	2	2%
Development framed by town green 	32	43%	Street presence but large parking lot 	17	18%
Wide sidewalk for outdoor seating, on-street parking 	19	26%	Street presence, pedestrian friendly 	45	47%
Narrow sidewalk, minimal separation from sidewalk and road 	12	16%	Park campus setting 	32	33%

Table 2-3 Visual Preference Survey Summary Results (continued)

Neighborhood Parks	Total	%	Park Amenities	Total	%
Open to subdivision, no fences 	10	9%	Community garden 	28	21%
Pocket park, seating and grass area 	28	25%	Fitness track or trail 	34	25%
Separate park facility 	36	33%	Active sports facilities 	31	23%
Large open green space 	36	33%	Child-friendly facilities 	42	31%



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3. Existing Conditions

Understanding the existing conditions that influence and affect future growth is an important step in the planning process. Examining and assessing existing conditions helps identify underlying issues, opportunities, and constraints to development, which informs future development potential and capacity within a given area. A comprehensive assessment of existing conditions this section includes the current land uses, zoning, transportation network, utility infrastructure, and natural areas within the Study Planning Areas.

3.1 Planning Background

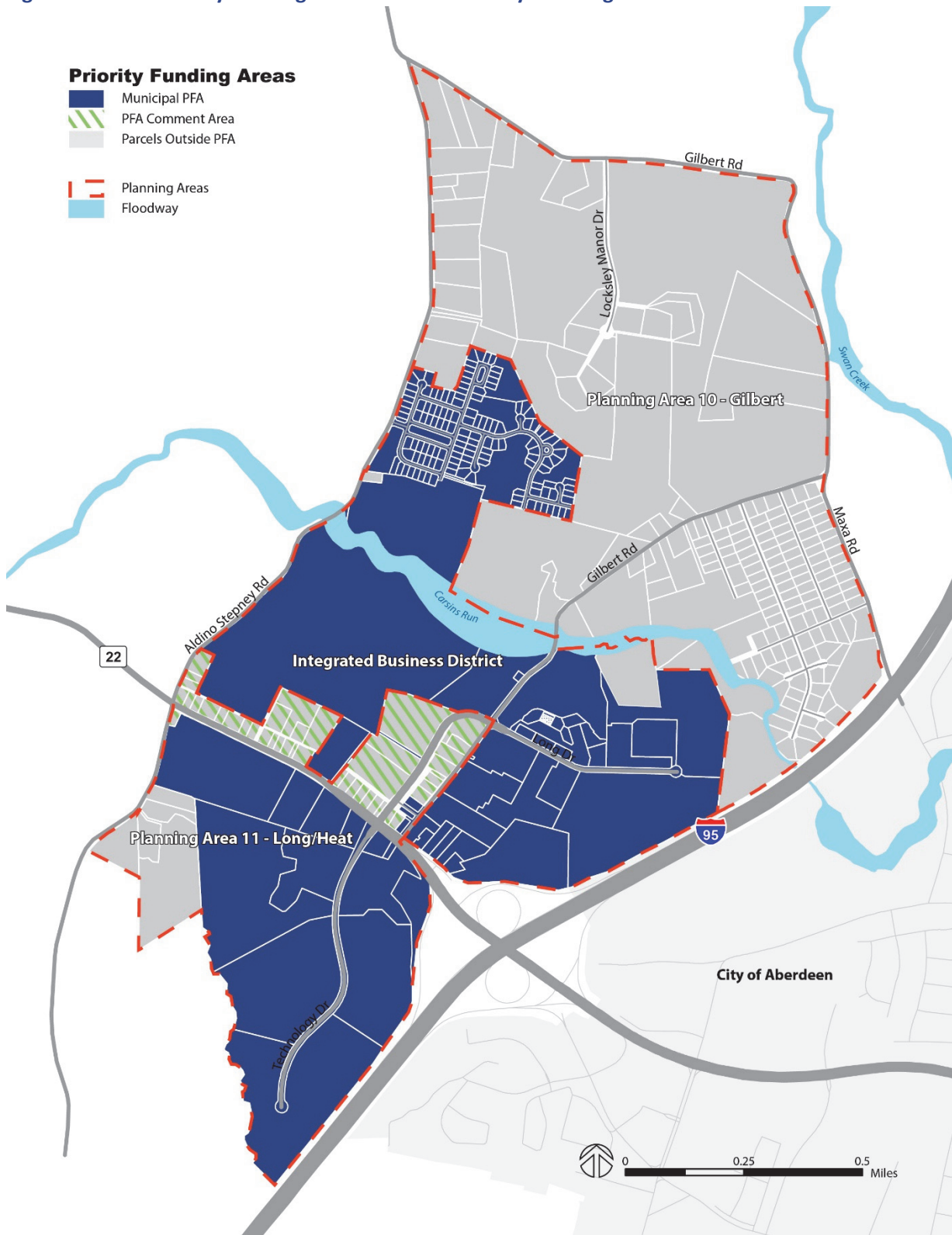
Planning in Aberdeen and Harford County is achieved through the use of different planning tools. In 1997, the State of Maryland adopted the Smart Growth Act, which established Priority Funding Areas (PFAs) to direct growth around existing population centers where community facilities and infrastructure exists. The County monitors the number and location of new housing units approved and also provides an analysis of the current and future capacity of public facilities and services such as schools, water and sewer, and roads. PFAs also designate areas where the State provides funding for infrastructure related to growth. PFAs are defined as existing incorporated communities; however, a county or municipality can also petition the Maryland Department of Planning to designate a PFA if the area meets state requirements. The petition is then approved by the Smart Growth Coordinating Committee. Such requirements include:

- Consistency with a comprehensive plan
- A demonstrated need for new development based on a Development Capacity Analysis
- Water utility service provisions
- An average zoned density of at least 3.5 dwelling units per acre
- Special considerations are given to employment-generating areas

The Priority Funding Areas within the Study Planning Areas are shown on **Figure 3-1**. The majority of the Integrated Business District and Planning Area 11 – Long/HEAT is within a PFA. Generally, only the residential properties within Planning Area 11 – Long/HEAT are excluded. However, the properties along the north side of MD 22 and along Long Drive are within a PFA Comment Area, meaning the properties were petitioned to be included in Aberdeen’s PFA, but were ultimately denied. This classification requires funding assistance approvals from Maryland’s Smart Growth Coordinating Committee and may be petitioned again in the future.

The County updated the Water Resources Element Plan of the County’s HarfordNEXT Master Plan to ensure adequate water resources meet current and future needs for potable water and wastewater treatment. The unincorporated portions of the Study Planning Areas outside of the PFA are designated Tier IV by the County per the State Sustainable Growth and Agricultural Act of 2012, meaning the County does not currently provide or plan for public sewer within these areas. The Sustainable Growth and Agricultural Preservation Act also places development limitations on property designated as a Tier IV property – no more than one (1) dwelling unit per 20 acres. The extension of city infrastructure into this area is discussed in Implementation Chapter 6.

Figure 3-1. Priority Funding Areas within the Study Planning Areas



Source: Maryland Department of Planning GIS: <http://mdpgis.mdp.state.md.us/pfa/>

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Per Maryland State Finance & Procurement Code § 5-7B-03 (2018), counties and municipalities may designate a PFA if the following criteria are met for the type of area in question:

Area	Criteria
Area zoned for industrial use	<p>An area zoned or, if applicable, classified by January 1, 1997 principally for industrial use may be designated as a priority funding area.</p> <p>An area zoned or, if applicable, classified after January 1, 1997, as industrial may be designated as a priority funding area if the area is served by a public or community sewer system.</p>
Principal use of area for employment	<p>The area is served by public or community sewer systems; or public or community sewer systems are planned in the approved 10-year water and sewer plan.</p> <p>An area zoned or, if applicable, classified after January 1, 1997 as industrial, or where the principal uses are for employment, shall be located within a locally designated growth area.</p>
Communities within locally designated growth areas prior to January 1, 1997	<p>Is served by a public or community sewer system and in that part of the community designated by the local government for residential use or development:</p> <ol style="list-style-type: none"> 1. there is an average density of at least 2.0 units per acre; or 2. if a portion of the community is undeveloped, the permitted average density is not less than 2.0 units per acre. <p>Or is served by a public or community water system and in that part of the community designated by the local government for residential use or development there is an average density of at least 2.0 units per acre. This does not apply to mobile home parks or communities with less than 10 units. Funding for a growth-related project is to be provided only if the project serves to maintain the character of the community and does not serve to increase the growth capacity of the community except for limited peripheral or in-fill development.</p> <p>If an existing community receives a public or community sewer system, an area beyond the periphery of the developed portion of the existing community may be designated as a priority funding area if the development of the area beyond the periphery:</p> <ol style="list-style-type: none"> 1. has a permitted average density of at least 3.5 units per acre; and 2. the area is served by a public or community sewer system. <p>The Department of the Environment may provide funding for a sewer system in an existing community beyond the periphery of the developed portion of the community if the expansion has a permitted average density of at least 3.5 units per acre.</p>
Areas other than communities within locally designated growth areas	<p>Is within a locally designated growth area of the local government; and is planned to be served under the approved 10-year water and sewer plan; the designation represents a long-term development policy for promoting an orderly expansion of growth and an efficient use of land and public services; and in that part of the area designated by the local government for residential use or development, there is permitted an average density of not less than 3.5 units per acre.</p>

Source: MD State Fin & Pro Code § 5-7B-03 (2018)



In addition to the PFAs, Harford County adopted a Development Envelope in 1977 to manage growth in the county. **Figure 3-2** shows the county's Development Envelope relative to the Study Planning Areas. The Development Envelope is generally defined as the areas along the MD 24/MD 924 corridor and the I-95/US 40 corridors. As noted in the Harford County Zoning Ordinance, the boundary of the Development Envelope is designated through the County's 2016 HarfordNEXT Master Plan. Generally, the Development Envelope in the county corresponds to the county's designated PFA, ensuring that development within the Development Envelope has the necessary water and sewer services needed for growth. Although specific criteria for adjustments to the Development Envelope is not outlined in the HarfordNEXT Master Plan, the most recent adjustments to the Development Envelope were designated as high intensity land uses on the Land Use Map. In addition to PFAs and the Development Envelope, Harford County established two Enterprise Zones, one of which includes land in the Study Planning Areas (**Figure 3-3**). The Aberdeen/Havre de Grace Enterprise Zone incentivizes business investment by offering two types of tax credits—real property tax credits and income tax credits. Real property tax credits are available for capital investments of at least \$100,000 for businesses with 10 employees or less, or \$125,000 for businesses with more than 10 employees. Income tax credits are available for businesses that hire at least two new employees for businesses with 10 employees or less, or five new employees for businesses with more than 10 employees. New employees must work at least 35 hours per week, be paid at least 150 percent over minimum wage, and spend at least half of their working hours within the Enterprise Zone.

Figure 3-2. Aberdeen Development Envelope



Source: <http://planning-harfordgis.opendata.arcgis.com/datasets/development-envelope>

Figure 3-3. Harford County Enterprise Zones



Source: Harford County Dept. of Planning & Zoning, October 2019



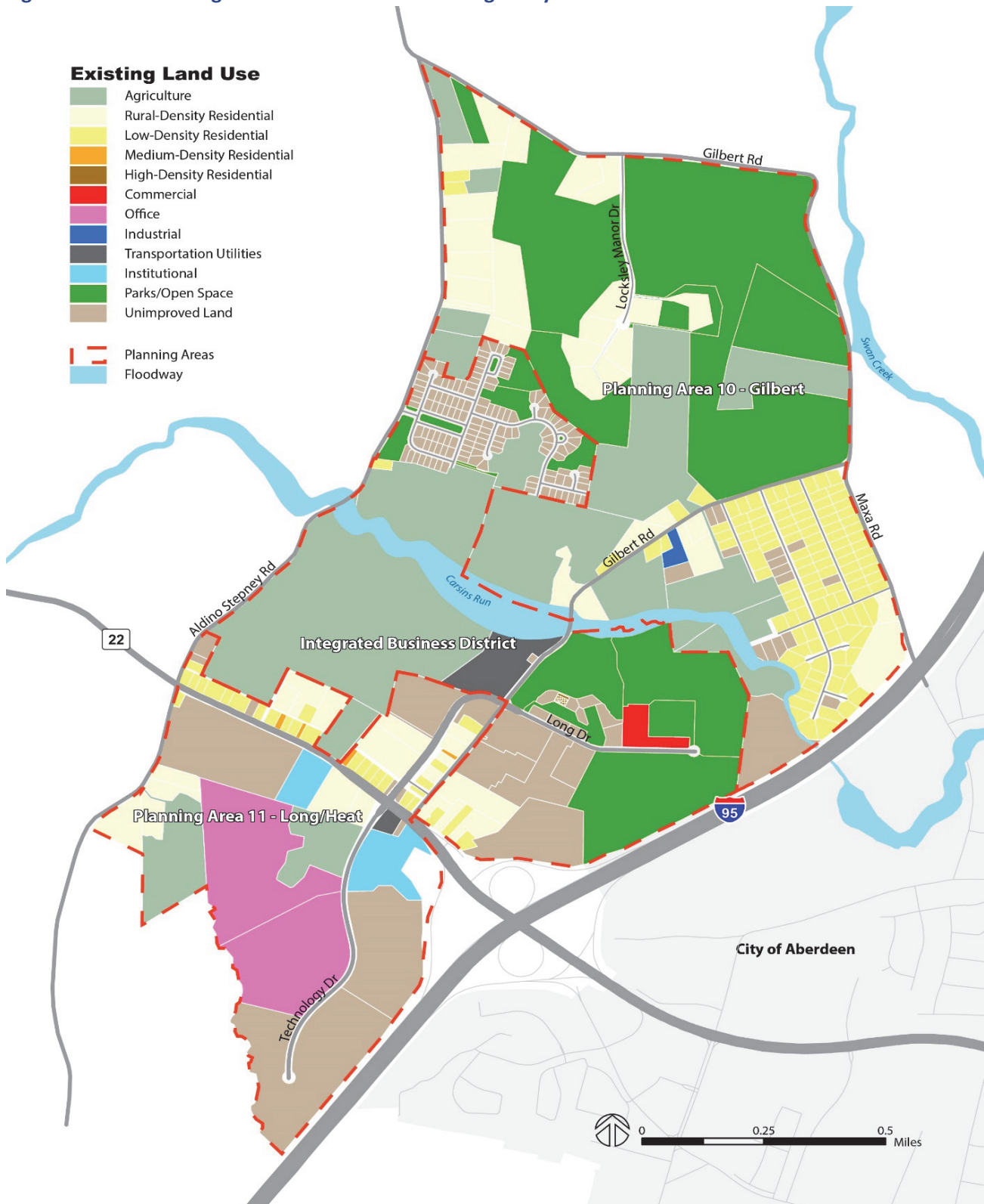
3.2 Existing Land Use

Existing land uses often influence surrounding development, and may provide opportunities for redevelopment. Certain uses attract people to an area, enabling new complementary developments nearby. Some uses may not be using the land to its highest and best use and has potential for redevelopment; while other uses may create an obstacle or constraint to future redevelopment, such as a cemetery. Identifying where and what these uses are and how they may contribute to the overall community in the future is an important step in the master planning process to target future development and redevelopment opportunities.

The Study Planning Areas encompass approximately 1,225 acres, or nearly two square miles. In general, the majority of the land consists of low-intensity uses, including agricultural, low-density residential, and open space, with the exception of employment generators and recreational facilities including the Battelle Eastern Science and Technology Center and Advanced Manufacturing, Materials, and Processes (AMMP) program in Planning Area 11 – Long/HEAT and the Ripken Stadium, Marriott Hotel, Cal Ripken Sr. Yard, Fieldside Commons office building and the Stadium Towne Center commercial development in the Integrated Business District.

Existing land use for the Study Planning Areas is shown on **Figure 3-4**, as provided by the best available GIS data from Harford County, followed by descriptions of the existing land uses within each Study Planning Area.

Figure 3-4. Existing Land Use within the Planning Study Areas



Planning Area 11 – Long/HEAT

Planning Area 11 – Long/HEAT is primarily located south of MD 22, and largely consists of employment-based uses, including the Battelle Eastern Science and Technology Center. The Battelle Memorial Institute is a multi-national research and development corporation and is one of the major landowners in this planning area covering a large portion along Technology Drive.



Battelle Eastern Science and Technology Center



AAMP Program Facility

Other employment uses along Technology Drive include the Advanced Manufacturing, Materials, and Processes (AMMP) program (formerly the HEAT Center) and the Aberdeen Technology Park, which houses a variety of businesses. The AMMP program is an additive manufacturing research facility operated by the National Center for Manufacturing Sciences and in partnership with the US Army Research Laboratory.

Residential uses within this planning area are more densely located along the north side of MD 22, along with some large-lot residential homes along Aldino Stepney Road. It should be noted that eight properties along MD 22 are recorded in the Maryland Inventory of Historic Properties due to the age of the structures. However, none of these properties contain associated easements, and were deemed ineligible to be listed on the National Register of Historic Places by the Maryland Historical Trust due to the lack of historical value. Thus, these properties do not constrain redevelopment efforts.



Residential home along MD 22



Baker Cemetery

Also included in this planning area is the Baker Cemetery along the south side of MD 22, which dates back to 1888. Just west of Baker Cemetery and along MD 22 is a 23-acre undeveloped lot with Light Industrial zoning. The size and location of this lot is an opportunity for mixed-use development along MD 22.

Integrated Business District

The Integrated Business District is defined by the incorporated area north of Interstate 95 that is zoned Integrated Business District. This area contains a wide range of uses in three distinct areas. The first area, between Gilbert Road and Interstate 95, is centered around Ripken Stadium. Ripken Stadium is home of the Aberdeen IronBirds, which is a Class A Short Season Minor League Baseball affiliate of the Baltimore Orioles Major League Baseball team. The Aberdeen IronBirds hold 38 home games each year at Ripken Stadium with seating capacity for 6,300. Associated with Ripken Stadium is Cal Ripken Sr. Yard and ancillary baseball fields, which hold youth baseball tournaments, as well as a Marriott Hotel and 17 acres of surface parking.



Ripken Stadium



Marriott Hotel



Cal Ripken Sr Yard

Adjacent to Ripken Stadium at the intersection of Long Drive and Gilbert Road is The Yards at Fieldside Village multi-family apartment complex containing one-, two-, and three-bedroom apartments, with rents ranging from \$1,100 to \$1,800 monthly. Across Long Drive from The Yards is the Fieldside Commons, a vacant 120,000 square-foot, four story LEED Certified Class A office building. This facility was constructed in 2012 as part of a planned multi-building office park to support projected office demand at Aberdeen Proving Ground resulting from growth associated with the Base Realignment and Closure Act but has remained vacant since completion. Three additional office buildings were planned as part of this complex but not constructed.

Aberdeen I-95 Area Land Use Study

Additionally, a new retail hub, Stadium Towne Center, is currently under construction along MD 22 and Gilbert Road. This development will feature over 65,000 square feet of commercial retail space.



The Yards at Fieldside Village



Fieldside Commons



Stadium Towne Center Construction

The second distinct area within the Integrated Business District is the land west of Gilbert Road and south of Carsins Run, which is largely undeveloped agricultural land owned by Presbyterian Homes of Maryland, Inc.



Open field along Aldino Stepney Road



Eagle's Rest subdivision

The third distinct area is the land north of Carsins Run and along Aldino Stepney Road, which features the Eagle's Rest subdivision. This subdivision consists of single-family homes ranging in value from approximately \$350,000 to \$450,000. Phase One was recently completed and includes 96 single-family homes. Phases II and C are currently under construction, and will include an additional 36 single-family homes, as well as approximately 12 acres of preserved woodlands.

Planning Area 10 – Gilbert

Planning Area 10 – Gilbert is located north of Carsins Run and is largely defined by the 160-acre Wetlands Golf Course. This standard 18-hole golf course features several supporting facilities, such as a banquet hall, meeting space, locker rooms, and Bogie’s Sports Bar and Grille.



Wetlands Golf Course



Adams Heights Subdivision

South of the Wetlands Golf Course, between Gilbert Road and Interstate 95, is the Adams Heights subdivision. This subdivision features 110 single family homes at approximately two dwelling units per acre.

The remainder of this planning area generally consists of large-lot residential uses, such as the homes along Locksley Manor Drive and Aldino Stepney Road.



Large-lot Homes on Locksley Manor Drive



3.3 Zoning

Zoning is a tool used by municipalities to control development and the permitted uses on individual properties. This practice helps locate compatible uses, protect property values, and establish or preserve a community’s character. In addition to designating permitted uses, zoning regulations for each individual use often include height restrictions, density limits, open space dedications, as well as other specific site design and building design requirements.

The City of Aberdeen’s Development Code contains the regulatory zoning districts and associated development standards that implements the City’s Comprehensive Plan. Aberdeen maintains 11 zoning districts and three overlay districts. The only zoning district within the incorporated portions of the planning area is Integrated Business District.

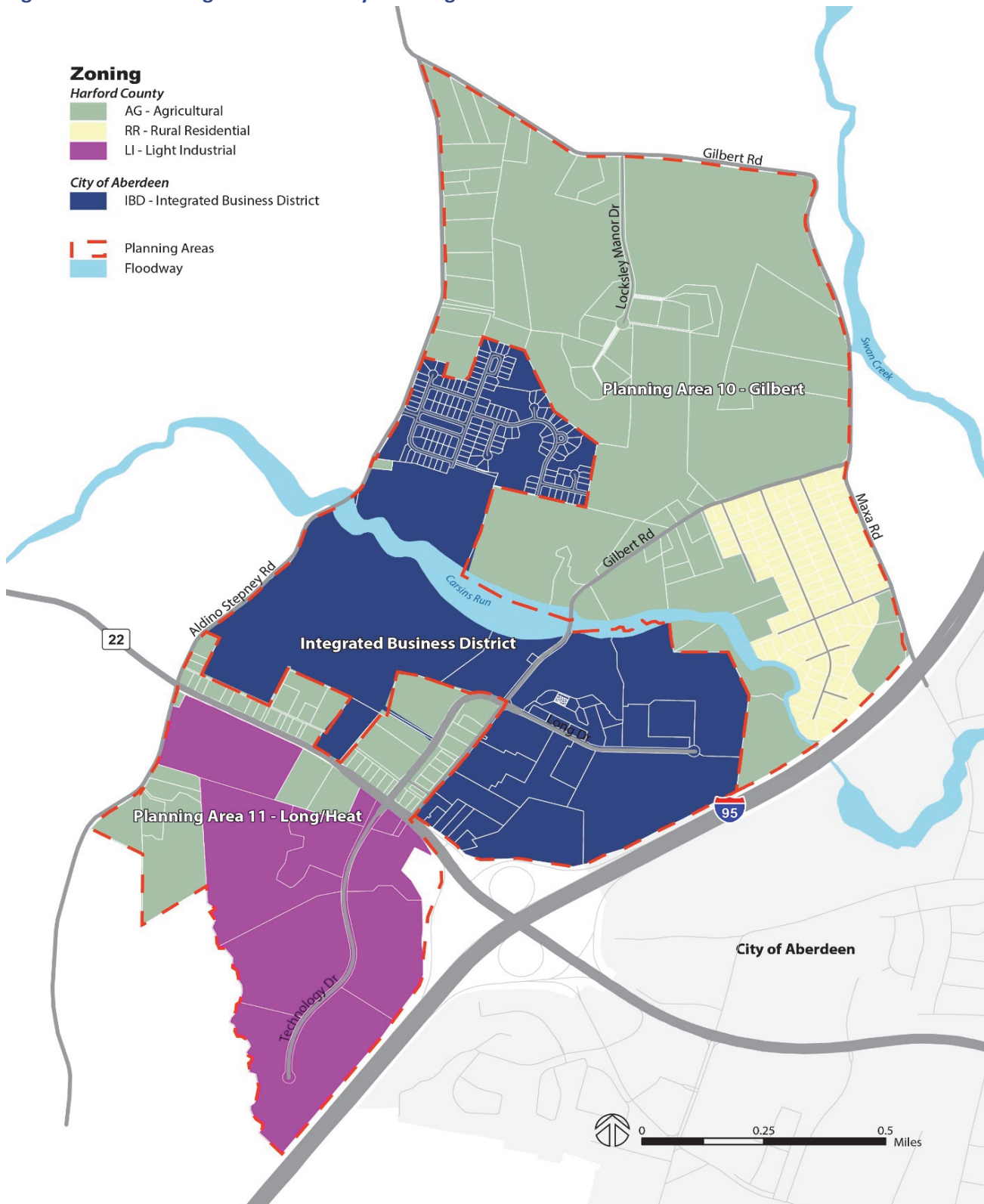
The unincorporated land is regulated by Harford County’s Zoning Code. Harford County maintains 16 zoning districts, four of which are within the Study Planning Areas. Zoning for the Study Planning Areas is shown on **Figure 3-5**, as provided by the best available GIS data, followed by descriptions of existing land uses as they relate to each of the three individual planning areas.

Planning Area 11 – Long/HEAT

Planning Area 11 – Long/HEAT is primarily zoned Light Industrial, encompassing the Battelle property, AMMP Program facility, and Aberdeen Technology Park, as well as the 23-acre undeveloped lot along MD 22. According to the Harford County Zoning Code, the Light Industrial District is intended for a mix of light manufacturing, warehousing, and service uses. This includes, but is not limited to:

- Commercial amusement and recreation
- Gymnasiums and health clubs
- Biomedical laboratories
- Laboratory research experimental or testing
- Colleges and universities

Figure 3-5. Zoning within the Study Planning Areas





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Harford County recently rezoned approximately 8.5 acres at the north west corner of the MD 22 and Long Drive intersection from Agricultural to Neighborhood Business. This area includes the eight properties listed in the Maryland Inventory of Historic Properties. The Neighborhood Business District is intended for limited retail and service uses, which generally help meet the daily needs of nearby residential areas. This includes, but is not limited to:

- Day-care centers
- Convenience good stores
- Shopping centers
- Restaurants
- Health services
- Professional services
- Single-family dwellings
- Duplexes

The remaining area within Planning Area 11 – Long/HEAT is zoned Agricultural. This zoning district is intended for the preservation of agricultural land and continued farming activities to maintain the rural character of the area. Permitted uses per the Harford County’s Zoning Code include, but are not limited to:

- Agriculture product processing
- Agriculture research laboratories
- Agricultural retail
- Commercial greenhouses and nurseries
- Single-family dwellings

Integrated Business District

Aberdeen’s Integrated Business District is intended to support development flexibility and creativity that promotes live-work-play environments. To accomplish this, the Integrated Business District permits a wide mix of uses, including residential, commercial, educational, entertainment, and recreational uses. This district also contains specific design requirements to establish a common theme, character, and quality across individual developments. Uses permitted within the Integrated Business District per the Aberdeen Development Code include, but are not limited to:

- Single-family dwellings
- Duplexes
- Garden apartments
- Mid-rise apartments
- High-rise apartments
- Townhouses
- Athletic facilities
- Banks
- Brewpubs
- Business and professional services
- Commercial amusement
- Banquet facilities and conference centers
- Convenience stores and gas station
- Hotels
- Movie theaters
- Office buildings
- Pharmacies
- Restaurants
- Retail commercial services
- Shopping centers
- Colleges and universities

Planning Area 10 – Gilbert

Planning Area 10 – Gilbert is largely zoned Agricultural, including the Wetlands Golf Course. The only exception is the Adams Heights subdivision, which is zoned Rural Residential. Per the Harford County Zoning Code, the Rural Residential District is intended for low-density residential uses to protect the open character of the area. Residential densities permitted within this zoning district are limited to a maximum of one dwelling unit per two acres. Permitted uses within this district include, but are not limited to:

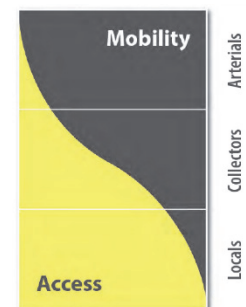
- Agriculture
- Single-family dwellings

3.4 Transportation Network

A modern, safe, and efficient transportation network is vital infrastructure for people to move about their daily lives and is essential to the economic growth and overall quality of life for communities. A complete network should enhance mobility by providing sufficient infrastructure for various transportation modes, including roads for motorized vehicles, as well as bicycle paths, trails, and sidewalks for bicyclists and pedestrians. An integrated transportation network that serves all segments of the population will support economic growth, as well as public health and safety and residents' sense of community. This section covers the major transportation infrastructure existing within the planning area, including the roadway system, bike and pedestrian facilities, and public transit access.

Roadway System

A community's roadway system is organized into functional classifications based on the mobility and access a roadway is designed to provide. Roads with more frequent access points, such as a local residential street, have lower mobility than streets with less access points, such as a major arterial street. The planning area consists of four roadway functional classifications—interstates, arterial streets, collector streets, and local streets—which are illustrated in **Figure 3-6**.

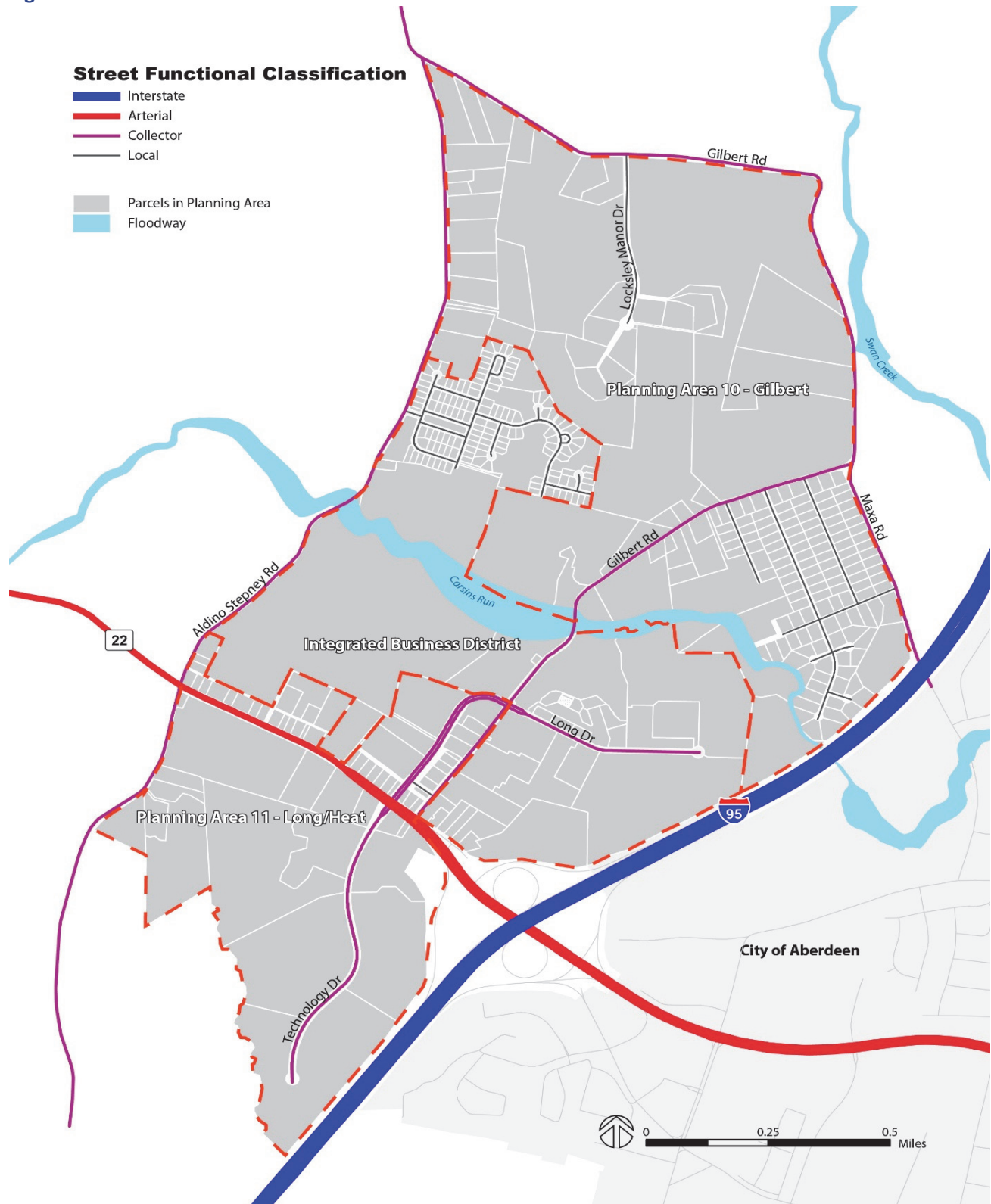


Interstates

Interstates are designed to maximize mobility and support the most traffic at the highest speeds, generally intended for long-distance travel. The only interstate through Aberdeen is Interstate 95, which runs along the south-east edge of the planning area. Interstate 95 is the eastern most north-south interstate in the US, generally running along the Atlantic Coast. This interstate is a major economic corridor that connects the US-Canada border in Maine to Miami, Florida, linking the City of Aberdeen to major cities, such as Baltimore, Maryland (30 miles); Wilmington, Delaware (40 miles); Washington DC (68 miles); Philadelphia, Pennsylvania (70 miles); New York, New York (158 miles); Richmond, Virginia (184 miles); Providence, Rhode Island (338 miles); Boston, Massachusetts (370 miles); Portland, Maine (470 miles); Savannah, Georgia (650 miles); and Jacksonville, Florida (780 miles); as well as the other major metropolitan areas near the Atlantic Coast.

According to the Maryland Transportation Authority, Interstate 95 handled 31 million vehicles during fiscal year 2017 on the 50-mile stretch between Baltimore's northern municipal boundary to the Delaware state line (also referred to as the John F. Kennedy Memorial Highway).

Figure 3-6. Street Functional Classification



Arterial Streets

Arterial streets are often the main commercial corridors within a community, maintaining low accessibility and high traffic volumes. The only arterial street through the planning area is MD 22.

Maryland Route 22 is a major corridor through Harford County, intersecting with Interstate 95. This road is a two-lane highway (one lane in each direction) for the majority of the planning area but expands to four lanes just west of the Long Drive intersection before the Interstate 95 interchange.



MD Route 22 viewing west

The MD 22 corridor connects the planning area to Aberdeen Proving Ground (APG) 3.5 miles to the south-east, and the Town of Bel Air 9.5 miles to the north-west. Aberdeen Proving Ground is a major US Army research, testing, and training installation, employing over 21,000 people. This military installation is the largest employer in Harford County and the sixth largest in the State of Maryland.

According to the Maryland Department of Transportation State Highway Administration 2017 Harford County Traffic Volume Map, MD 22 contains an annual average daily traffic (AADT) of 18,102 through the study area, which is among the lowest traffic counts across the corridor. The MD 22 Corridor Study completed in 2012 found motorists experience only minor delays, if any, during peak travel periods, resulting in a Level of Service (LOS) B. The only recommended improvements for this section of roadway include enhanced visibility of the stop sign at the Aldino Stepney Road intersection and bike facility upgrades. However, consideration should be given to the age of this study, and this Land Use Study will assess additional roadway improvements for MD 22 that are compatible with the future development potential in the area.

Collector Streets

Collector streets, as the name implies, are used to collect vehicles from local streets and distribute them to arterial streets, typically balancing the need for access to adjacent properties and the mobility of through traffic. There are four collector streets within the planning area— Gilbert Road, Aldino Stepney Road, Technology Drive/Long Drive, Maxa Road, and Locksley Manor.



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Gilbert Road is a narrow two-lane street (one lane in each direction) that travels through the center of the Integrated Business District and Planning Area 10 – Gilbert, then wraps around the eastern / northern edge of the Planning Area 10 – Gilbert planning area once it intersects with Maxa Road; and terminates where it intersects with Aldino Stepney Road. This roadway does not intersect with MD 22 but does intersect with Long Drive near the Long Drive / MD 22 intersection and is one of only two corridors in the planning area that crosses Carsins Run.



Gilbert Road viewing north



Aldino Stepney Road viewing north

Aldino Stepney Road is a narrow two-lane street (one lane in each direction) that travels across the western edge of the planning area, and merges with Gilbert Road at the northernmost point of the planning area. This street is the second of only two roads within the planning area that cross Carsins Run (along with Gilbert Road) and contains stop signs at the MD 22 intersection. However, the Aldino Stepney Road and MD 22 intersection may require a traffic light as growth and development occurs.



Technology Drive and Long Drive are each segments of a continuous roadway between Carsins Run and Cranberry Run, bisected by MD 22. Technology Drive is located south of MD 22 and is a three-quarter-mile segment providing access to the Battelle Eastern Science and Technology facility, AMMP Program facility, and Aberdeen Technology. Long Drive is located north of MD 22, providing access to Ripken Stadium, Cal Ripken Sr. Yard, the Marriott Hotel, and the Yards at Field Side Village apartments. The main difference between the Technology Drive and Long Drive segments are the number of lanes. Technology drive contains two lanes (one lane in each direction), whereas Long Drive is a four-lane street and features a landscaped median between MD 22 and Gilbert Road.

The Technology Drive / Long Drive intersection with MD 22 is the only current traffic light in the planning area. However, there is one additional traffic light planned to serve the Stadium Towne Center development.



Intersection of MD 22 and Long Drive / Technology Drive



Technology Drive viewing north



Long Drive viewing north

Maxa Road is a narrow two-lane street (one lane in each direction) running along a small portion of the eastern border of Planning Area 10 – Gilbert. This street bridges across Interstate 95, and merges into Gilbert Road.

Local Streets

Local streets prioritize access to nearby properties, businesses, and residences over mobility. As such, traffic generated from nearby land uses is generally light, and speed limits are low. For these reasons, local streets are designed to discourage cut-through traffic and truck traffic.

Bike and Pedestrian Facilities

Bike and pedestrian facilities offer active, healthy transportation alternatives to personal motorized vehicles. Like all other modes of transportation, these facilities are best utilized when they efficiently connect people to places through a continuous network.

Bike and pedestrian facilities may be located on-street, but separated from vehicular traffic, such as sidewalks or bike lanes. These facilities may also be located off the street network as their own individual paths.

The existing bike and pedestrian facilities within the planning area shown on **Figure 3-7**. Currently, there are no protected areas for bicyclists, and limited pedestrian facilities. Bicyclists are expected to compete with motorized vehicles in drive lanes. Although MD 22 contains a 10-foot wide shoulder across most of the planning area, this shoulder is also used as a right-turn lane onto Aldino Stepney Road and disappears where MD 22 expands to four lanes near Long Drive, limiting the shoulder's utility as a bicycle route.



Bicyclists riding on Aldino Stepney Road



The Technology Drive sidewalk terminates at MD 22

Pedestrian sidewalks are also limited and disconnected in the planning area. Technology Drive is the only major roadway that features sidewalks along both sides of the street across the entire segment. Long Drive maintains sidewalks between Gilbert Road and the terminus at Ripken Stadium, but lacks sidewalks connecting to Technology Drive between Gilbert Road and MD 22. Maryland Route 22 only contains sidewalks between Interstate 95 and Technology Drive / Long Drive, connecting to the future Stadium Towne Center commercial hub. Although the Eagle's Rest subdivision maintains sidewalks along all residential streets, the sidewalks do not extend along Aldino Stepney Road.



Figure 3-7. Existing Bike and Pedestrian Facilities



Aside from on-street facilities, there are no off-street bike or pedestrian paths within the planning area. The disconnected nature of bike and pedestrian facilities, both on- and off-street, creates a barrier to bike and pedestrian mobility.

The MD 22 Corridor Study (2012) contains recommended bike and pedestrian enhancements for MD 22 through the planning area, and are supported in the Harford County Bicycle and Pedestrian Master Plan (2013). These recommended improvements include striping the existing shoulders along MD 22 as bike lanes, and “Share the Road” signage where there are no shoulders. The only pedestrian recommendations include upgrading the sidewalks at the intersection of MD 22 and Technology Drive / Long Drive to meet Americans with Disability Act (ADA) compliance standards. These reports do not propose sidewalk extensions nor protected bike lanes along MD 22.

Public Transit

Public transit systems offer an alternative mode of transportation to those who cannot drive, such as the elderly, and those who choose not to drive, often allowing them to travel farther distances than they can walk or bike. These systems provide a critical link in the overall transportation network. Successful public transit systems connect people to desired destinations, such as employment and commercial centers, are reliable, and are inexpensive.

Harford County operates the Harford Transit LINK, which is the county’s public transit system. The Harford Transit LINK consists of six bus routes, one of which stops in the planning area—Route 1: Green Line. This bus stop is located near the MD 22 and Technology Drive / Long Drive intersection, and connects to Harford Mall, Harford Community College, Aberdeen Train Station, Harford Memorial Hospital, and the Havre de Grace Library. This route also connects to the other five bus routes. Service hours are Monday through Friday from 5:30 am to 8:50 pm, with approximately one-hour headway times, depending on traffic, weather, and other potential detours. The cost for riders is \$1.00 for the general public, \$0.50 for riders over 60 and for riders with disabilities.



Harford Transit LINK bus stop near MD 22 and Technology Drive



3.5 Utility Infrastructure

Utility infrastructure is necessary to support future development. The location and capacity of this infrastructure informs the scale and feasibility of development and may suggest needed capital improvements to extend infrastructure and/or increase capacity. Utility infrastructure discussed in this section are water, stormwater, and power.

Water

Harford County's Development Envelope, which establishes the intended growth boundary within the county, covers the incorporated municipal limits in the City of Aberdeen, as well as the unincorporated properties along MD 22 and Technology Drive in Planning Area 11 – Long/HEAT. This corresponds to the City's Water Service Area, which includes the properties Aberdeen provides, or will provide, potable water and wastewater services. Planning Area 10 – Gilbert is not within Harford County's Development Envelope or Aberdeen's Water Service Area. Properties within this planning area use private well and septic systems. The potable water and wastewater infrastructure existing within the planning area are described in the following subsections and shown in **Figure 3-8**.

Potable Water

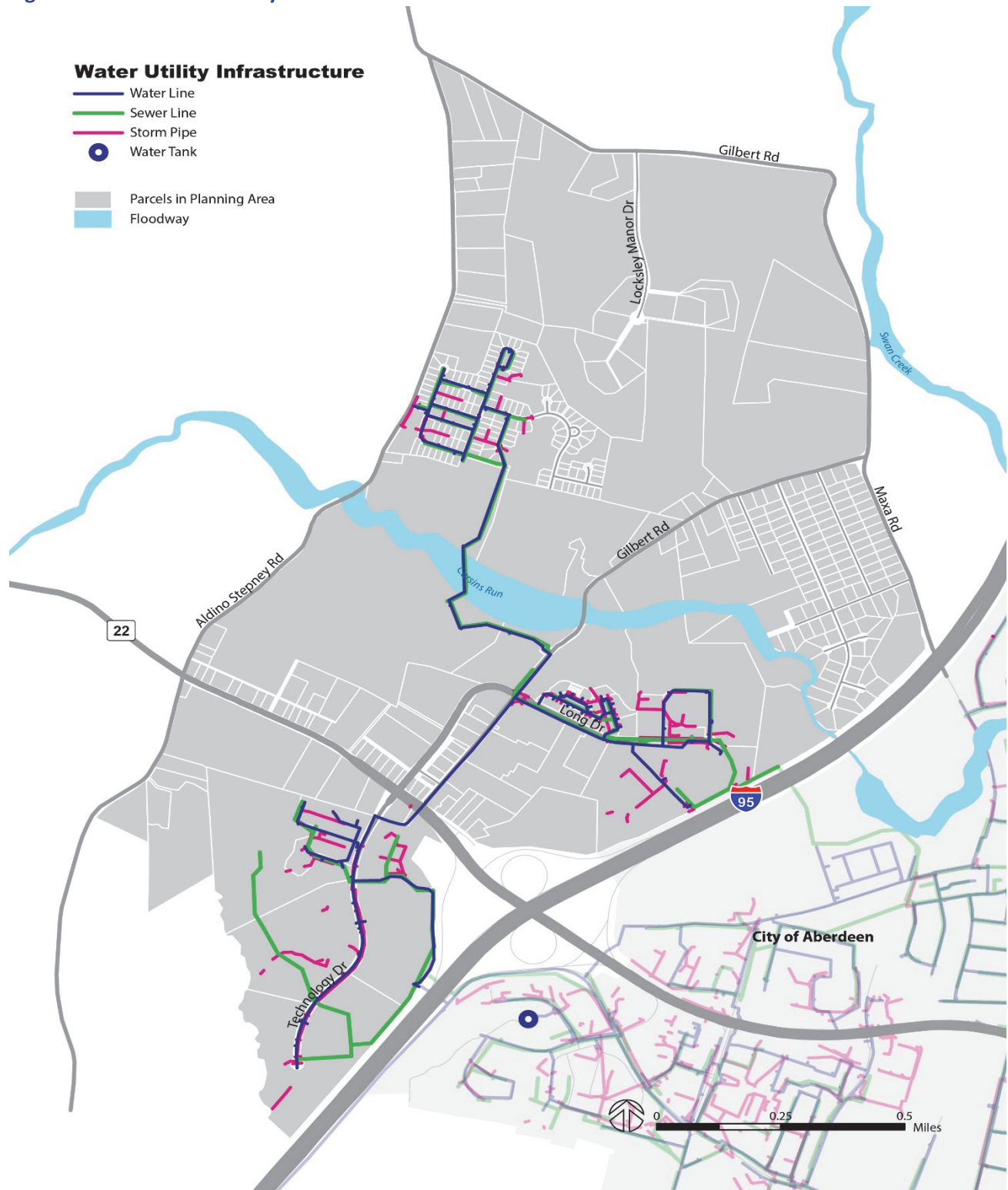
As of Aberdeen's 2011 Comprehensive Plan, the City maintained a maximum potable water capacity of 2.9 million gallons per day (MGD), and used approximately 1.485 MGD, or about 51 percent of its total potable water capacity. According to the US Census and American Community Survey, Aberdeen added 742 housing units between 2010 and 2017 for a total of 6,933 as of 2017. Using this data to approximate the City's current capacity, the City still contains an estimated 36 percent of available potable water to serve future residents, or 0.936 MGD of available water capacity. This is enough capacity to serve roughly an additional 5,153 housing units.

Within the planning area, Aberdeen maintains an 8-inch water line along Technology Drive and Gilbert Road between MD 22 and Carsins Run. This line serves the employment uses along Technology Drive in Planning Area 11 – Long/HEAT, as well as the developments in the Integrated Business District along Gilbert Road and Long Drive, such as Stadium Towne Center, Fieldside Commons, the Yards at Fieldside Village, and Ripken Stadium. This water line then runs along the south bank of Carsins Run for approximately a quarter mile, then jogs north to connect to the Eagle's Rest subdivision. There are no existing waterlines along MD 22, however, future infrastructure along MD 22 will be necessary to support higher-intensity development along the corridor. The City of Aberdeen recently completed the design and engineering for a new water tower planned to be constructed west of I-95, near MD 22 and Technology Drive.



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Figure 3-8. Water Utility Infrastructure





Wastewater

According to Aberdeen’s 2011 Comprehensive Plan, the City maintained a permitted wastewater treatment capacity of 4.0 MGD, and a peak flow capacity of 6.0 MGD. Of this capacity, the City treated on average 2.23 MGD, or 55 percent of the permitted capacity. Using the same methodology as the potable water infrastructure, the City still maintains an estimated 1.54 MGD available capacity to treat wastewater, or enough to serve approximately an additional 4,178 homes.

Wastewater infrastructure serving the planning area also consists of 8-inch sewer pipes. Sewer pipes enter the planning area from two points, one north of the I-95 / MD 22 interchange and one south. The northern connection runs along Long Drive, serving Ripken Stadium, the Yards at Fieldside Village, and Fieldside Commons, then follows the waterline to the Eagle’s Rest subdivision. The southern connection serves the employment uses along Technology Drive, running along the west edge of I-95 with three offshoots—one extending to the Technology Drive cul-de-sac, one connecting to and extending beyond the Battelle Eastern Science and Technology facility, and one connecting to the AMMP facility and Aberdeen Technology Park. There are no sewer lines along MD 22, which like potable water, will be necessary to support higher-intensity development.

Stormwater

Minimum stormwater management measures are regulated in Aberdeen’s Development Code. New developments are required to control for two-year and ten-year frequency storm events on site, subject to Department of Public Works review. The City has adopted the State’s stormwater management regulations, through Code of the City of Aberdeen, Chapter 465 Stormwater Management.

Power

Power is supplied to the planning area by BGE, which provides both electricity and natural gas. Future developments will need to complete a service application through BGE to connect to their power grid.

3.6 Natural Areas

Preserving the natural environment and the resources they provide is integral to community sustainability. Natural areas include water bodies, floodplains, wetlands, and habitats such as forests. In many cases, the natural areas have shaped—and will continue to shape—the history and unique character of communities and people living in them. Many natural areas may also provide recreational opportunities for residents. Most importantly, natural areas provide many essential needs, including potable water, clean air, local foods, building materials, and buffers against the effects of natural disasters. The Natural Areas in the Study Planning Areas is shown on **Figure 3-7**.

Development that negatively impacts important natural areas not only undermines good environmental stewardship, but may also impact air and water quality, and in doing so, human health, welfare, and safety. Additionally, where developments eliminate important natural areas, residents may become increasingly vulnerable to natural impacts, such as storm surges. It is critical to identify important natural areas and create a plan that balances natural resource protection and the built environment.



View of Carsins Run from the Gilbert Road bridge

Carsins Run is the primary and most prominent natural feature running through the planning area. Carsins run is a stream running from the northwest planning area boundary to the southeast boundary, crossing Aldino Stepney Road, Gilbert Road, and Interstate 95, eventually draining into Swan Creek. The linearity of the stream, and the visual appeal of nature provide opportunities for off-street pedestrian connectivity along the stream.

The 100-year floodplain associated with Carsins Run is the area that has a one percent chance of flooding each year due to large storm events. It is generally recommended that development avoids the 100-year floodplain to protect the public health, safety and welfare and personal property. There are no current developments within the Carsins Run 100-year floodplain, and future developments should continue to avoid the floodplain.

Also associated with Carsins Run are designated wetlands. Unlike the 100-year floodplain that has a 1 percent chance each year of flooding, wetlands are natural areas that have a consistent water table within six inches of the ground surface for at least three months of the year. They help stabilize and maintain groundwater levels. Wetlands also help filter pollutants from runoff, which enhances overall water quality. Wetlands cannot be developed without lowering the water table and reducing or eliminating the benefits they provide. Most wetlands within the planning area are along Carsins Run. However, there are some smaller wetlands south of Carsins Run near the Yards at Fieldside Village apartments, and in the center of the undeveloped Presbyterian Homes of Maryland, Inc. property.

Figure 3-9. Natural Areas within the Study Planning Areas





*View of the forested character along Technology Drive
in Planning Area 11 – Long/HEAT*

Another prominent natural feature laced throughout the planning area are the forested areas. Nearly 20 percent of the planning area is considered to be forested. This is largely concentrated south of Carsins Run, as the area north of Carsins run contains the Eagle’s Rest and Adams Heights subdivisions and Wetlands Golf Course. The most critical forested areas are within and along waterways, such as Carsins Run and its associated 100-year floodplain and wetlands. The vegetation within these areas fortifies the banks of the waterways and absorbs some of the water, protecting against erosion and reducing the extents of flooding. Removing vegetation within these critical natural areas could be detrimental to the environment and surrounding properties, exacerbating the effects of flooding.

In addition to the environmental benefits, natural forested areas often provide an aesthetic character to a community and has the opportunity to be integrated with future development.

There are two other notable natural features on the periphery of the planning area—Cranberry Run and Swan Creek. Cranberry Run is a small stream that forms the southwestern planning area boundary, but there are no identified floodplains or wetlands associated with the waterway. Swan Creek is located just east of Gilbert Road, where most of the water runoff in the Study Planning Area drains to. The 100-year floodplain and wetlands associated with Swan Creek are outside the Study Planning Area but should be considered by future development to protect water quality.



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4. The Plan

The Plan provides a cohesive vision for future development within the planning area, creating a framework for that influences the physical, social, and economic environment. This vision helps guide land use and circulation decisions that foster a strong sense of place and high quality of life within the community over the next 20+ years.

Using the information and data collected to assess the existing conditions, as well as the input received during the public workshops, two concepts were developed for the Aberdeen I-95 Master Plan—A Town and Country alternative and Main Street alternative. Although there are similarities between the two alternatives, both concepts are incorporated into this Plan as separate options and described in this chapter.

Each of the Alternative Plans was developed using a set of planning principles to promote high quality functioning development. These planning principles are discussed in the following section.

4.1 Aberdeen Design Principles

Built Environment

1. **Provide a compatible mix of uses to foster a complete community where all daily needs can be met within a short distance.**

Locating a varied mix of uses in proximity to one another provides the possibility for residents to walk or bike to many of their daily destinations. The opportunity to walk or bike relieves traffic congestion, fosters a healthy community, and creates a more convenient and exciting built environment. Additionally, permitting multiple uses and activities within a community supports flexible, adaptable, and resilient places as societies and technologies advance.

- Support small neighborhood centers within residential communities.
- Encourage live-work communities.

2. **Encourage mixed-use developments that create a walkable environment.**

Walkable mixed-use development, in appropriate locations, creates exciting and more engaging live-work-play destinations. Mixed-use developments can include multiple uses on the same property, or even occupy the same building. Condensed mixed-use hubs with active commercial uses on the ground floor and residential units above provides the density necessary to support robust, walkable places, while protecting the integrity of the surrounding neighborhood.

- Identify locations appropriate for mixed-use development.
- Support mixed-use developments that enhance the public realm.
- Permit and encourage commercial development to incorporate residential units on upper floors.

3. Support context-sensitive development in terms of scale, character, and the natural environment.

New development should relate to its surrounding environment to create a cohesive community character, as well as respect and connect to natural features onsite and nearby. Although this does not mean new development should look the same as existing development, new development should incorporate similar architectural styles, elements, and scales. Context-sensitive design blends the historic character of a community with modern trends and market conditions to foster gradual, incremental change as a community evolves.

- Promote a strong community character.
- Incorporate similar architectural styles and elements as surrounding community.
- Relate and connect new development to nearby natural features.

4. Develop a variety of housing types.

Housing choices differ based on a combination of age, income, lifestyle, and family dynamic among many other factors. Providing a range of housing types fosters a diverse, inclusive, and equitable place for all current and future community members. A range of housing types may include large- and small-lot single-family homes, duplexes, triplexes, townhomes, rowhomes, court homes, apartments, and condominiums.

- Encourage a diversity of housing types in residential developments.
- Permit single-family conversion to duplex and triplex units.
- Support accessory dwelling units.



5. Minimize parking in terms of size, visibility, and impact.

Although parking is a necessity in many urban places, parking lots detract from the aesthetic and liveliness of the built environment. Excessive off-street parking also creates an oversupply, further detracting from built environment, plus consumes more land that could otherwise be used as open space or another community amenity. Furthermore, large surface parking lots along sidewalks also hinders walkability. Minimizing the quantity of parking, the visibility of parking, and the impact of parking on the public realm will greatly enhance the sense of place in communities.

- Eliminate parking minimums for commercial and office uses.
- Locate surface parking lots behind buildings.
- Require parking lots to be landscaped and screened from sidewalks when along a public right-of-way.
- Encourage shared parking between businesses and developments.



6. Cluster and coordinate development within and between subdivisions to protect natural resources and create a continuous network of open space.

Open space is more valuable to a community when it is contiguous and connected to a larger open space network, rather than piecemealed disconnected pieces held in private hands. Organizing and clustering development on the least sensitive land can generate the same quantity of development, while conserving more open space that enhances the overall community. Coordinating cluster development and conservation efforts between developments helps create a continuous open space network, enhancing the open space amenity for the community.

- Support and encourage cluster development techniques.
- Connect open spaces between developments.



Natural Environment

1. Protect the integrity of natural systems and scenic resources.

Protecting the natural environment is critical for both a resilient and attractive community. The integrity of natural systems helps protect against flooding impacts, fosters wildlife habitats, and maintains water quality. Additionally, the natural environment is often an attractive community amenity enjoyed by residents and an important aspect to a community's identity. Flood damage may be minimized by requiring development to be set back 100 feet from the top of the banks of all FEMA mapped water courses and 50 feet from unmapped streams. The setback area is a "no build" zone which preserves the natural functions of the floodplain.



- Require a vegetated buffer between Carsins Run and new development.
- Limit development in the 100-year floodplain and wetlands.

2. Orient development to embrace the natural environment as a community amenity, featuring parks, trails, and greenways.

The natural environment is an important community amenity. Orienting development with the natural environment provides opportunities to connect residents with the natural environment. Parks, trails, and greenways that connect the natural environment to the community help capitalize on the open space value the natural environment provides, making it more accessible to residents and visitors.

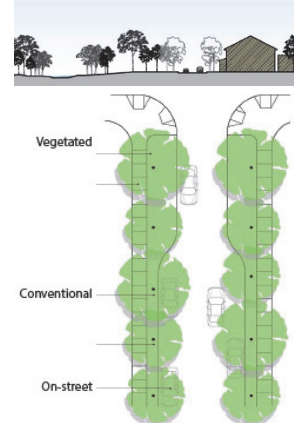
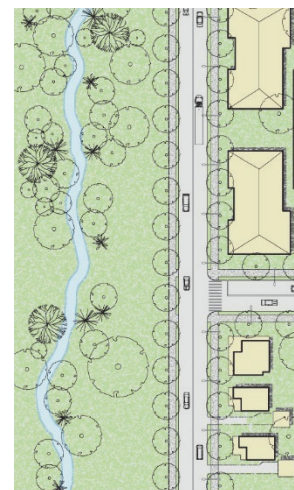


- Create streets parallel to conserved open spaces with single-loaded frontage.
- Provide continuous trails through developments and through open spaces.
- Connect parks and open spaces through greenways, trails, and other pedestrian paths.
- Discourage design that results in privatized open spaces and limits access.

3. Integrate natural features with development to link the built and natural environments through urban forestry and green infrastructure.

Integrating natural features with development provides sustainable and aesthetic benefits to the built environment. Green infrastructure can be incorporated along streets to enhance stormwater management, while urban forestry can reduce the urban heat island effect. These methods also enhance communities aesthetically, softening the built environment through the use of enhanced landscapes.

- Implement green infrastructure best practices as a method of stormwater management.
- Require street trees along public rights-of-way.
- Encourage urban forests in the built environment and in parks that are connected to surrounding open spaces.



4. Provide linkages between open spaces to create a contiguous network.

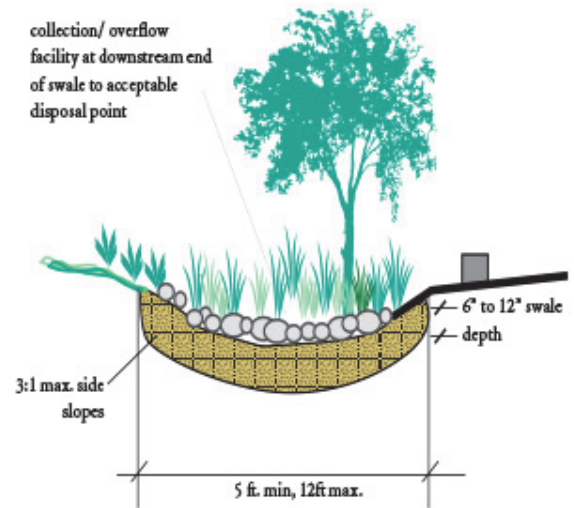
Open spaces are most effective and valuable to the community and to the natural environment when they are conserved in a contiguous network. Linking open spaces within and between developments sets the foundation for a healthy contiguous open space network throughout a community. This network may include conserved open spaces, parks, trails, as well as greenways.

- Encourage new development to coordinate open spaces and connections to adjacent properties.
- Link parks and open spaces through landscaped trails and greenways.

5. Manage stormwater onsite to reduce stormwater runoff and improve water quality.

Impervious surfaces caused by development restrict stormwater infiltration into the ground, which not only expedites the rate stormwater flows back to surface waters, but also collects pollutants along the way. Managing stormwater onsite reduces the burden of stormwater infrastructure, lessens flooding impacts, plus enhances stormwater runoff quality as it can be infiltrated back into the ground. Green infrastructure methods, such as rain gardens and bioswales, collect and drain stormwater runoff onsite mimicking the natural hydrologic cycle.

- Develop rain gardens along public rights-of-ways.
- Encourage bioswales incorporated with development.
- Promote pervious pavements for surface parking lots.



Connectivity

1. **Provide multiple points of connectivity between and through subdivisions that connect to the greater street network.**

A lack of connectivity creates longer and indirect trips between destinations, creating unnecessary traffic and hindering walkability. Providing multiple points of connectivity between communities, neighborhoods, and destinations alleviates traffic congestion, enhances opportunities for walking and biking, and improves overall mobility.

- Minimize excessively long blocks.
- Reduce the number of cul-de-sacs and other dead-end roads.
- Encourage continuous streets across developments.
- Coordinate connectivity between developments.



2. **Prioritize pedestrian mobility within and between development.**

Fostering pedestrian mobility is critical for an active and healthy community and high-quality sense of place. Excessive use of automobiles requires a disproportionate amount of land and infrastructure to accommodate transportation and storage, whereas pedestrian traffic requires relatively little infrastructure. Enhancing and encouraging pedestrian mobility reduces the liability of automobiles and creates a more engaging community.

- Provide pedestrian paths that connect across developments.
- Require pedestrian paths connecting to cul-de-sacs and dead-end roads.
- Ensure all streets maintain continuous sidewalks that foster pedestrian activity and mobility.



3. **Develop continuous, safe, and comfortable streets for both pedestrians and bicyclist.**

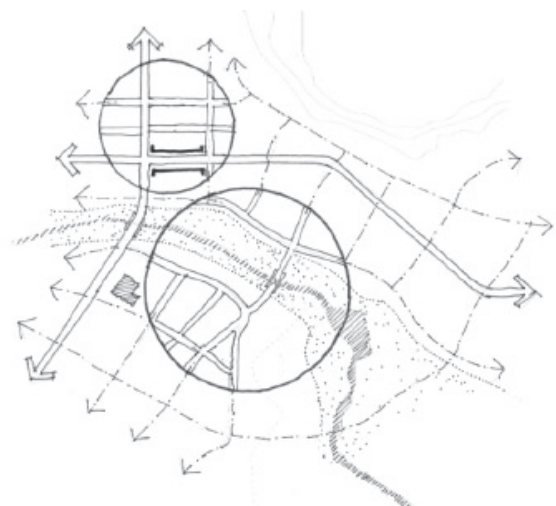
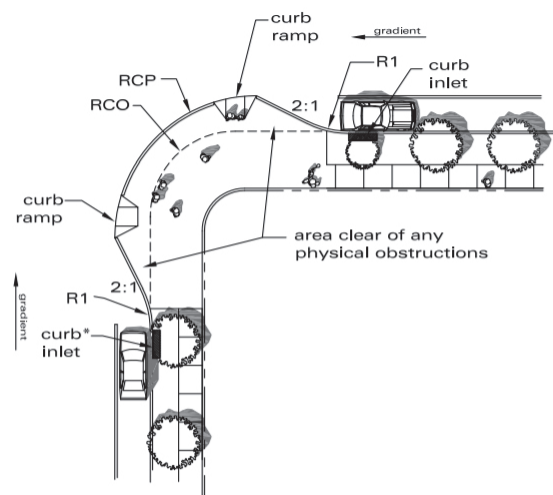
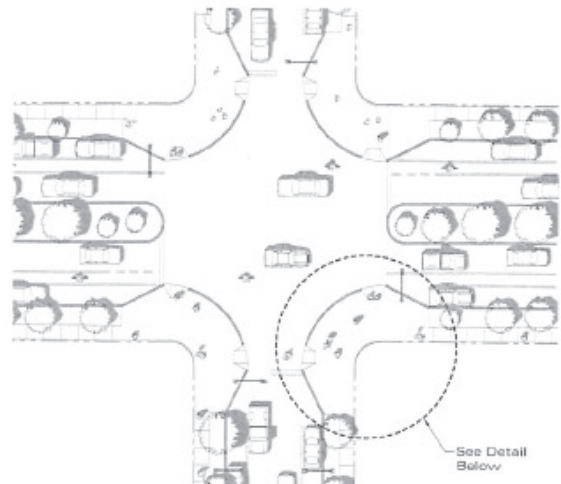
Continuous and safe streets encourage people to walk and / or bike rather than drive personal vehicles to their destinations. Safer streets often require traffic calming techniques to slow vehicular speeds and keep motorists aware of pedestrians and bicyclists.

- Incorporate traffic calming techniques along streets and at intersections.
- Minimize drive lane widths.
- Ensure streets are well-lit at night.

4. **Design the street network around important natural features to minimize impacts.**

Roadway infrastructure can negatively impact the natural environment. However, streets through natural areas are necessary for community connectivity. Designing the street network to be cognitive of the natural environment minimizes impacts and supports connectivity between communities.

- Align the street network to important natural features and conserved open spaces.
- Minimize the number of road crossings through conserved open spaces and important natural features.
- Reduce right-of-way widths through conserved open spaces and across important natural features.



5. Incorporate off-street trail connections between developments and through the natural environment.

A continuous off-street trail network encourages walking and pedestrian activity throughout a community and adds a complementary layer of pedestrian and bicycle mobility. Integrating a trail network between the built and natural environments connects people to nature, creating a healthy and active community.

- Extend off-street trails through natural areas.
- Develop a variety of trail types for various conditions, such as natural trails, urban trails, and suburban trails.



Nature Trail



Urban Trail



Suburban Trail



4.2 Development Trends

As society grows and changes, so do the ways communities are built, inhabited, and experienced. There are two main factors that have influenced societal change in recent years—demographic shifts and technological advances.

Demographic Shifts

As the Baby Boomer generation ages, their housing needs and desires change. Often, many baby boomers are looking to downsize to smaller homes in proximity to urban amenities, entertainment destinations, and recreational opportunities. As the Millennial generation increasingly moves into the labor force, they generally prefer to work close to home, or work remotely. This has driven many employers to locate offices in more desirable areas rather than where land costs may be less expensive. Millennials are also more prone to renting as opposed owning homes for a variety of reasons, such as prolonging marriage, increased student loans, and increased housing costs. Thus, Millennials also generally prefer smaller urban housing similar to aging Baby Boomers.

As a result of these demographic shifts, communities are trending towards developing live-work, amenity-rich, mixed-use neighborhoods. Such neighborhoods blend employment opportunities, entertainment destinations, urban services, recreational amenities, and a range of housing options in a more compact area desired by generations both young and old. This is often accomplished through mixed-use development, which is the combination of multiple uses within the same property, such as apartments abutting a grocery store, or multiple uses within the same building, such as retail uses on the ground floor and residential units and / or offices consuming the upper floors. Mixed-use development helps create vibrant, walkable communities desired by both Baby Boomers, Millennials, and the like by integrating various uses in proximity to one another.

Technological Advances

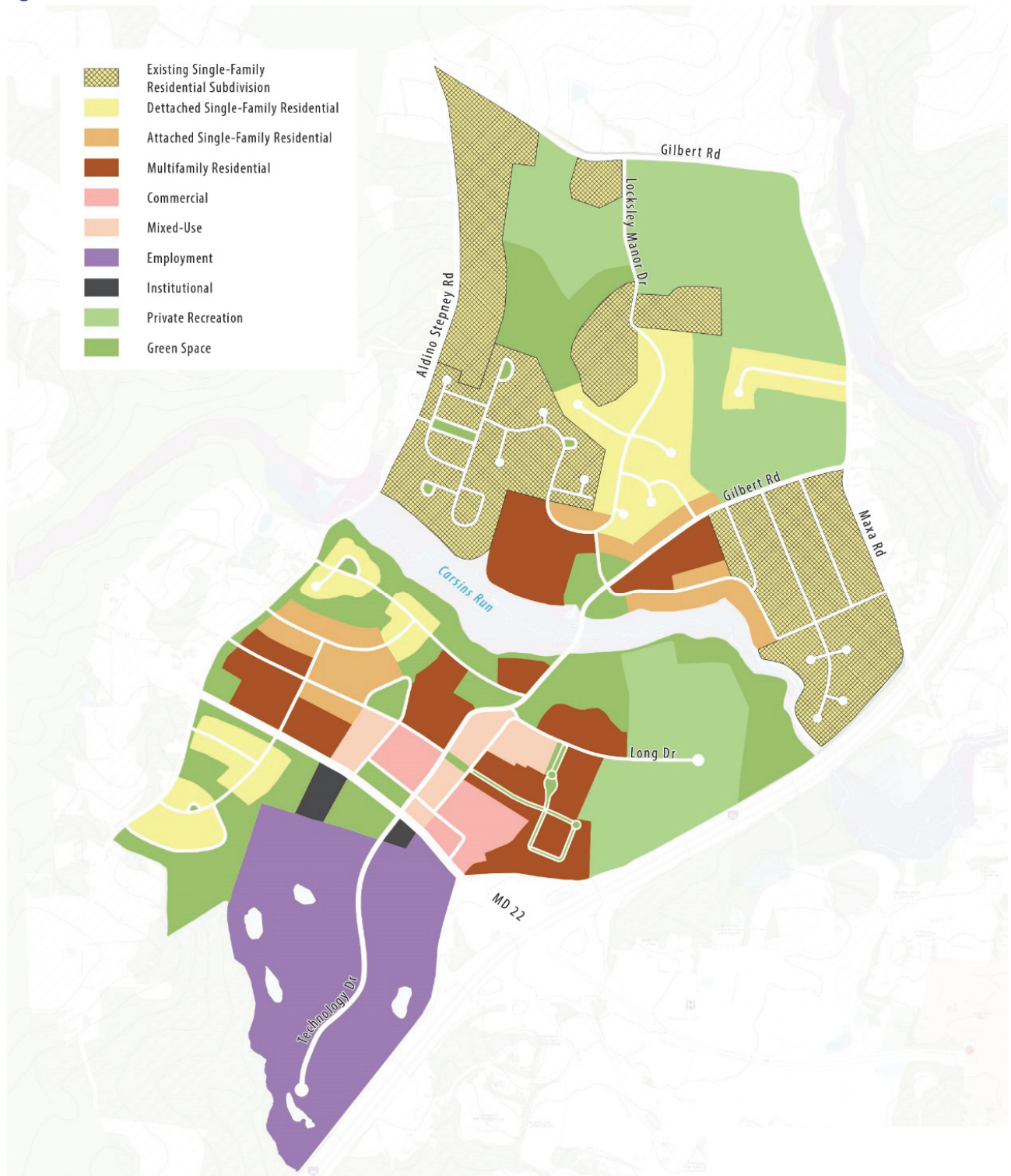
New and evolving technology continually shapes society and how society interacts with the built environment. The internet has revolutionized how most people shop, travel, and work over the past few decades. More and more people are shopping online, reducing demand for physical retail space. Many traditional brick and mortar retail stores, such as grocery stores, are developing on smaller footprints with less inventory, but providing delivery services. Many new retail establishments focus on offering entertainment experiences over consumer goods. Technology has, and continues to, evolve transportation trends. Rideshares have become a more viable alternative to owning a personal vehicle in an urban environment. Additionally, autonomous vehicle technology is also rapidly advancing, and could change the way communities are designed. Without the necessity to park cars in proximity to destinations, urban areas can be reshaped to accommodate smaller drop-off locations rather than large parking lots surrounding buildings. Lastly, the widespread accessibility of broadband and mobile devices has allowed employees to choose where they want to live and work remotely, which has become more common with the demographic shift. This has also supported coworking spaces, where remote employees of various employers can share a common office space. Coworking office spaces provide amenities of a traditional office environment but shared among individuals and employees working remotely for various employers.



4.3 Alternative 1: Town and County

The Town and County Alternative creates a local community hub along the Long Drive / Gilbert Road corridor between MD 22 and Carsins Run. This community hub features an integrated and compatible mix of uses, including commercial, offices, residential, and common open spaces, which together create a vibrant and exciting hub of activity at the center of the community. This Alternative preserves the Adams Heights and Eagles Rest subdivisions as building blocks for additional single-family development. Ripken Stadium and the Wetlands Golf Course are also preserved, while integrated with compatible and complementary development in available adjacent areas. In total, this Alternative has capacity for over 2,591 new housing units and nearly 419,000 new commercial square footage based on calculated residential densities and nonresidential intensities. The Town and County Land Use Plan is illustrated on **Figure 4-1**.

Figure 4-1. Alternative 1 Land Use





Land Use

Detached Single-Family Residential

Providing a variety of detached single-family residential lot sizes supports housing diversity in a community at locations identified in **Figure 4-2**. Lot sizes south of Carsins Run (**C, D, E, and F**), near the mixed-use core should consist of smaller lot sizes, approximately 4,000 and 6,000 square feet. These lot sizes help create a dense, close-knit community that is within walking distance to the mixed-use core and employment center along Long Drive / Technology Drive.

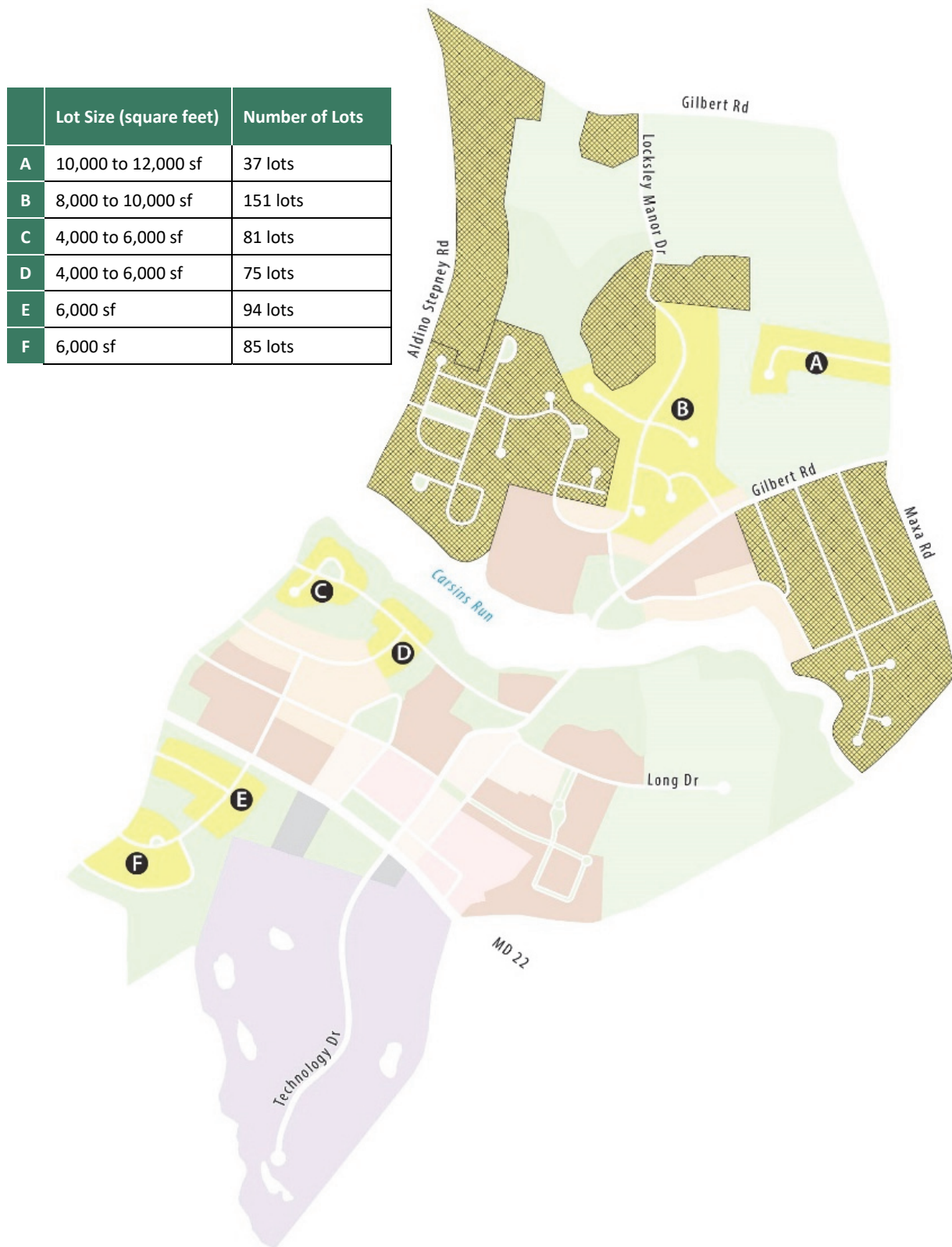
Lot sizes north of Carsins Run (**A and B**) should be between 8,000 and 12,000 square feet, which is more consistent with the Eagles Rest and Adams Heights subdivisions. Blending these housing types with the existing context strengthens the community identity.

The total buildout for detached single-family residential land uses in Alternative 1 is listed in Table 4-1.

Table 4-1 Alternative 1 Detached Single-Family Residential Buildout

	Lot Size (square feet)	Number of Lots
A	10,000 to 12,000 sf	37 lots
B	8,000 to 10,000 sf	151 lots
C	4,000 to 6,000 sf	81 lots
D	4,000 to 6,000 sf	75 lots
E	6,000 sf	94 lots
F	6,000 sf	85 lots

Figure 4-2. Detached Single-Family Residential Land Use Locations





Attached Single-Family Residential

Attached single-family residential homes provide additional density to a single-family residential neighborhood, while preserving the neighborhood character at locations identified on **Figure 4-3**. Various types of attached single-family residential homes include townhomes, rowhomes, duplexes, and triplexes, each of which may vary in size, cost, and design. These types of residential developments help transition between a dense urban form to a lower-density detached single-family neighborhood.

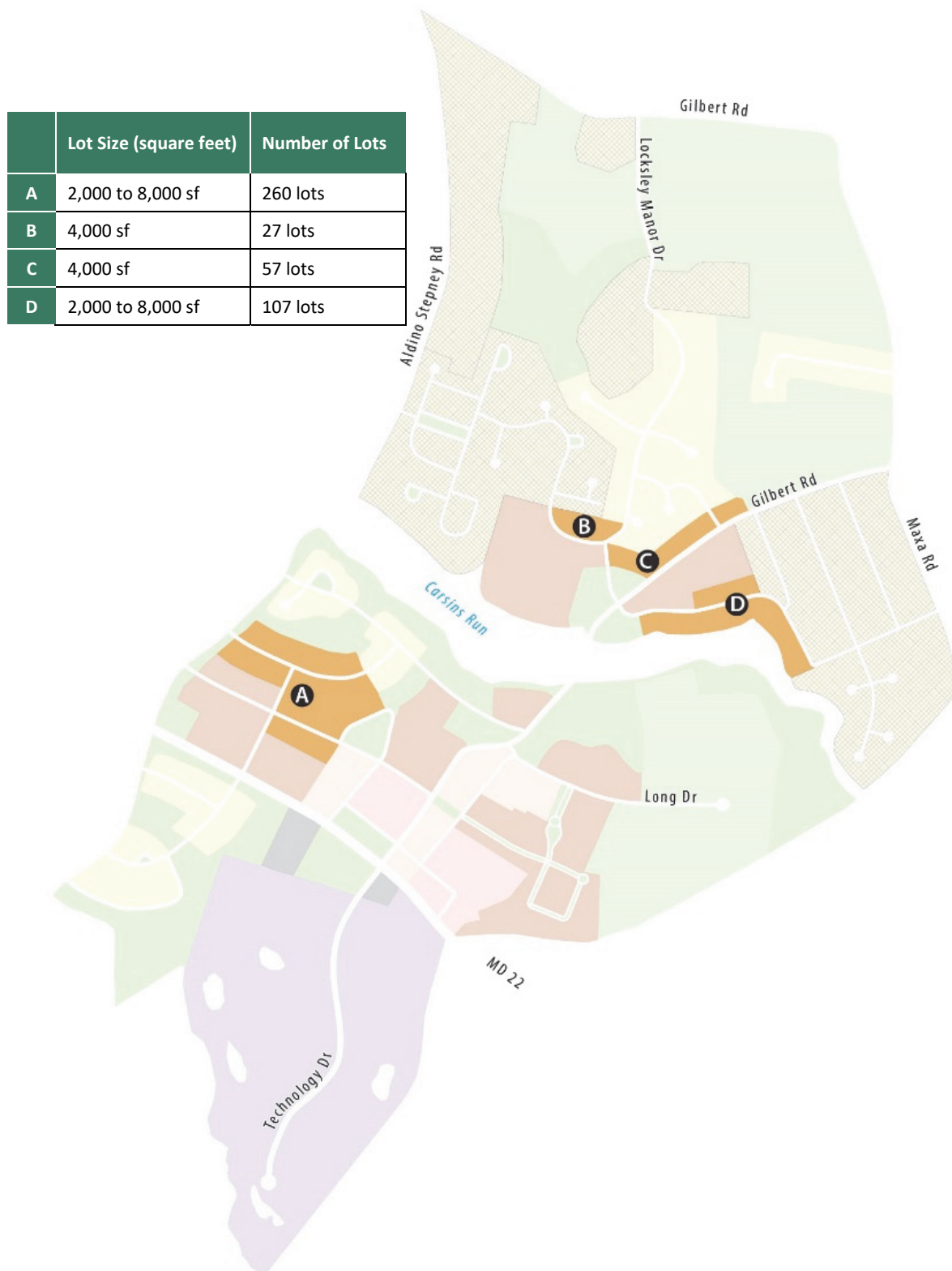
The area south of Carsins Run (**A**) supports a variety of attached single-family uses, ranging from rowhomes adjacent to the multifamily uses to duplexes and triplexes adjacent to the detached single-family residential uses. Attached single-family residential uses north of Carsins Run help buffer between multifamily development and low-density and intensity uses, such as detached single-family residential (**B** and **C**) and the Carsins Run floodplain (**D**). These areas north of Carsins Run should consist of townhome developments that maintain a similar character to adjacent detached single-family residential areas.

The total buildout for attached single-family residential land uses in Alternative 1 is listed in Table 4-2.

Table 4-2 Alternative 1 Attached Single-Family Residential Buildout

	Lot Size (square feet)	Number of Lots
A	2,000 to 8,000 sf	260 lots
B	4,000 sf	27 lots
C	4,000 sf	57 lots
D	2,000 to 8,000 sf	107 lots

Figure 4-3. Attached Single-Family Residential Land Use Locations





Multifamily Residential

Multifamily residential developments provide an additional layer of housing diversity for a full range of residential options at locations identified on **Figure 4-4**. Multifamily residential units in Alternative 1 are generally located in proximity to the mixed-use hub along MD 22 and Long Drive (**A** through **F**). Increasing densities near the mixed-use hub supports a walkable urban environment near local destinations.

North of Carsins Run, multifamily residential uses are located along Gilbert Road (**H**) and the community open space along Gilbert Road and the north bank of the floodplain (**G**). Increasing densities surrounding community assets maximizes the population within walking distance.

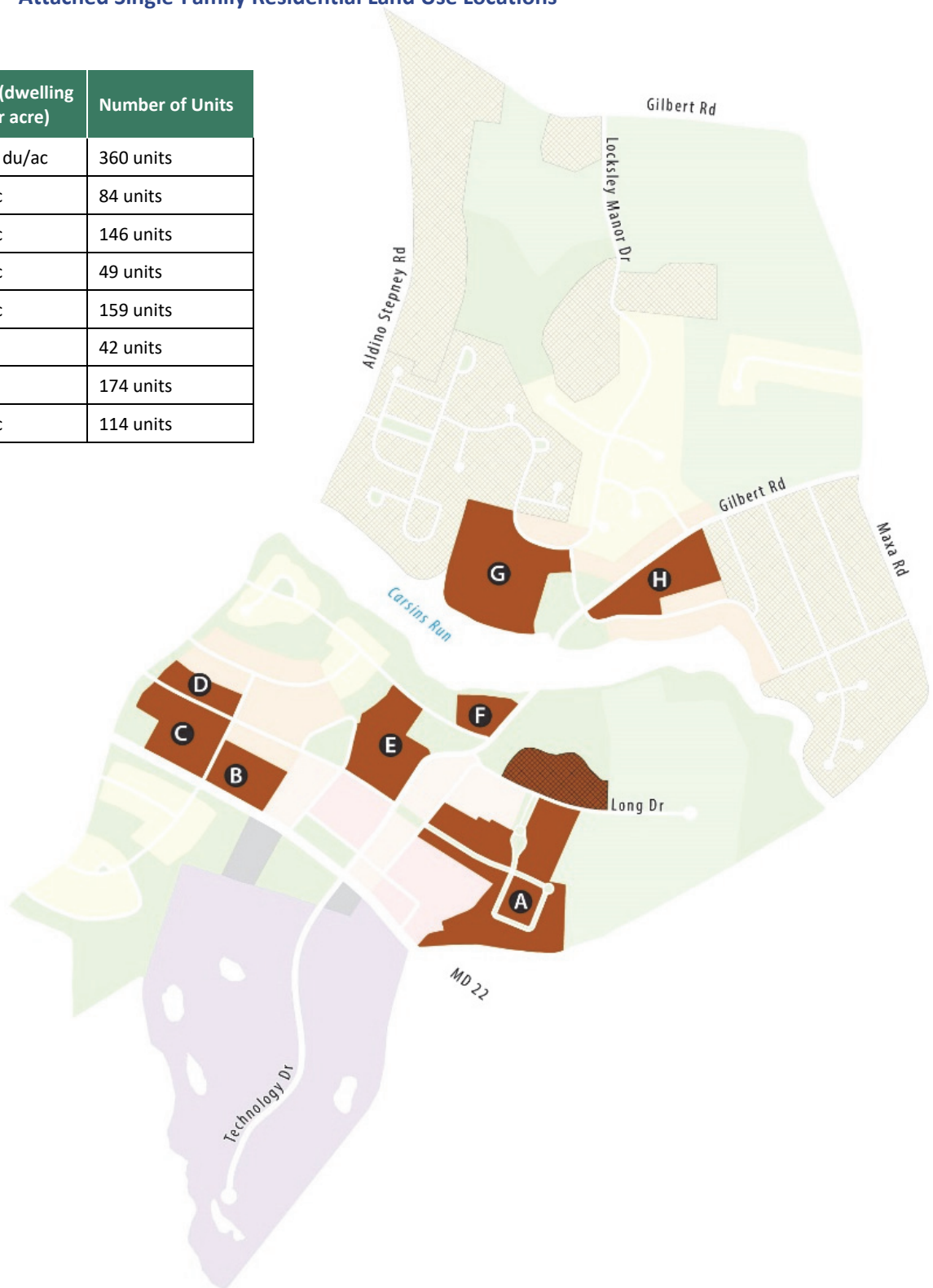
The total buildout for multifamily residential land uses in Alternative 1 is listed in Table 4-3.

Table 4-3 Alternative 1 Multifamily Residential

	Density (dwelling units per acre)	Number of Units
A	10 to 12 du/ac	360 units
B	12 du/ac	84 units
C	12 du/ac	146 units
D	10 du/ac	49 units
E	12 du/ac	159 units
F	8 du/ac	42 units
G	8 du/ac	174 units
H	10 du/ac	114 units

Figure 4-4. Attached Single-Family Residential Land Use Locations

	Density (dwelling units per acre)	Number of Units
A	10 to 12 du/ac	360 units
B	12 du/ac	84 units
C	12 du/ac	146 units
D	10 du/ac	49 units
E	12 du/ac	159 units
F	8 du/ac	42 units
G	8 du/ac	174 units
H	10 du/ac	114 units



Commercial

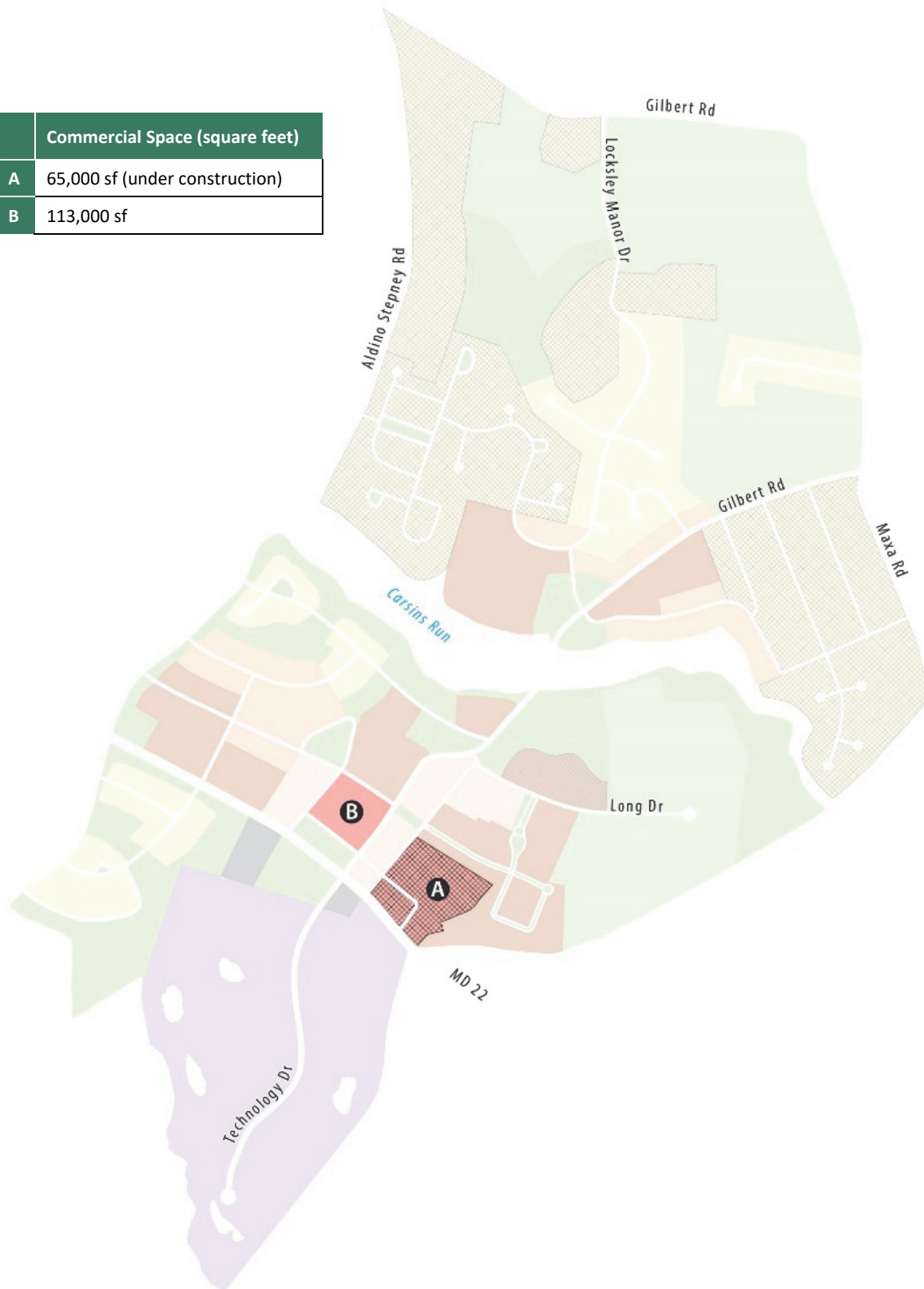
Commercial uses provide places for commerce and entertainment, supplementing the mixed-use core in the community. The Stadium Towne Center development currently under construction (**A**) was left as is, with an additional commercial pod centrally located to support a community grocery store along Long Drive (**B**).

The total buildout for commercial land uses in Alternative 1 is listed in Table 4-4.

Table 4-4 Alternative 1 Commercial Buildout	
	Commercial Space (square feet)
A	65,000 sf (under construction)
B	113,000 sf

Figure 4-5. Commercial Land Use Locations

	Commercial Space (square feet)
A	65,000 sf (under construction)
B	113,000 sf





Mixed-Use

Mixed-use includes multiple uses occupying a single building or a single property at locations shown on **Figure 4-6**. A mix of uses within a mixed-use development are often commercial retail and / or office on the ground floor and residential units on the upper floors. A mixed-use development may also be horizontally configured, where commercial uses are oriented along a street front and residential uses are located in the rear of a property. The mixed-use core in this alternative is centrally located between Long Drive and Gilbert Road near the MD 22 intersection.

Additionally, the existing structure at Fieldside Commons (**D**) is converted into a vertical mixed-use building featuring commercial uses on the ground floor, and residential units on the floors above.

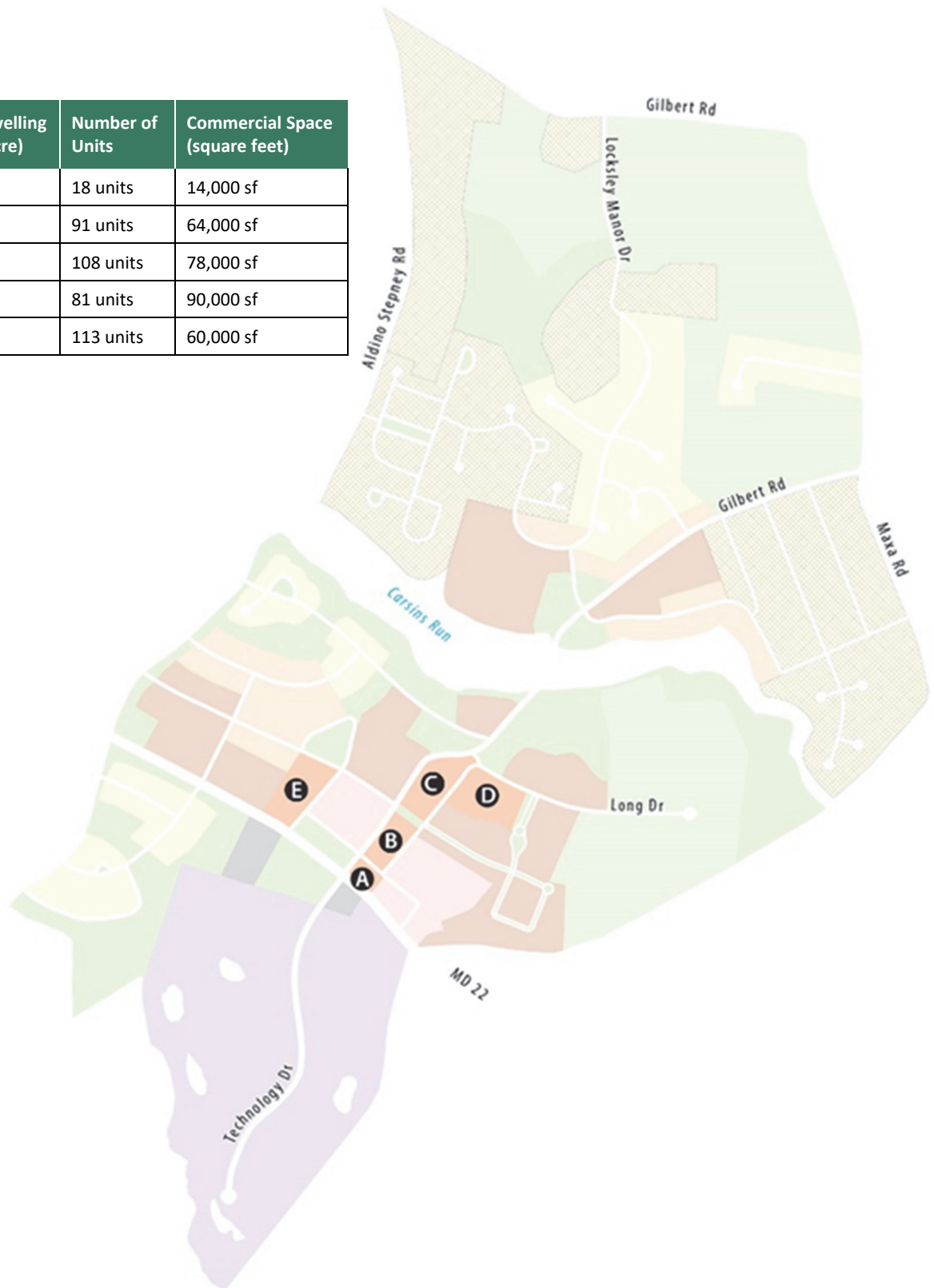
The total buildout for mixed-use land uses in Alternative 1 is listed in Table 4-5.

Table 4-5 Alternative 1 Mixed Use Buildout

	Density (dwelling units per acre)	Number of Units	Commercial Space (square feet)
A	18 du/ac	18 units	14,000 sf
B	18 du/ac	91 units	64,000 sf
C	18 du/ac	108 units	78,000 sf
D	12 du/ac	81 units	90,000 sf
E	18 du/ac	113 units	60,000 sf

Figure 4-6. Mixed-Use Land Use Locations

	Density (dwelling units per acre)	Number of Units	Commercial Space (square feet)
A	18 du/ac	18 units	14,000 sf
B	18 du/ac	91 units	64,000 sf
C	18 du/ac	108 units	78,000 sf
D	12 du/ac	81 units	90,000 sf
E	18 du/ac	113 units	60,000 sf

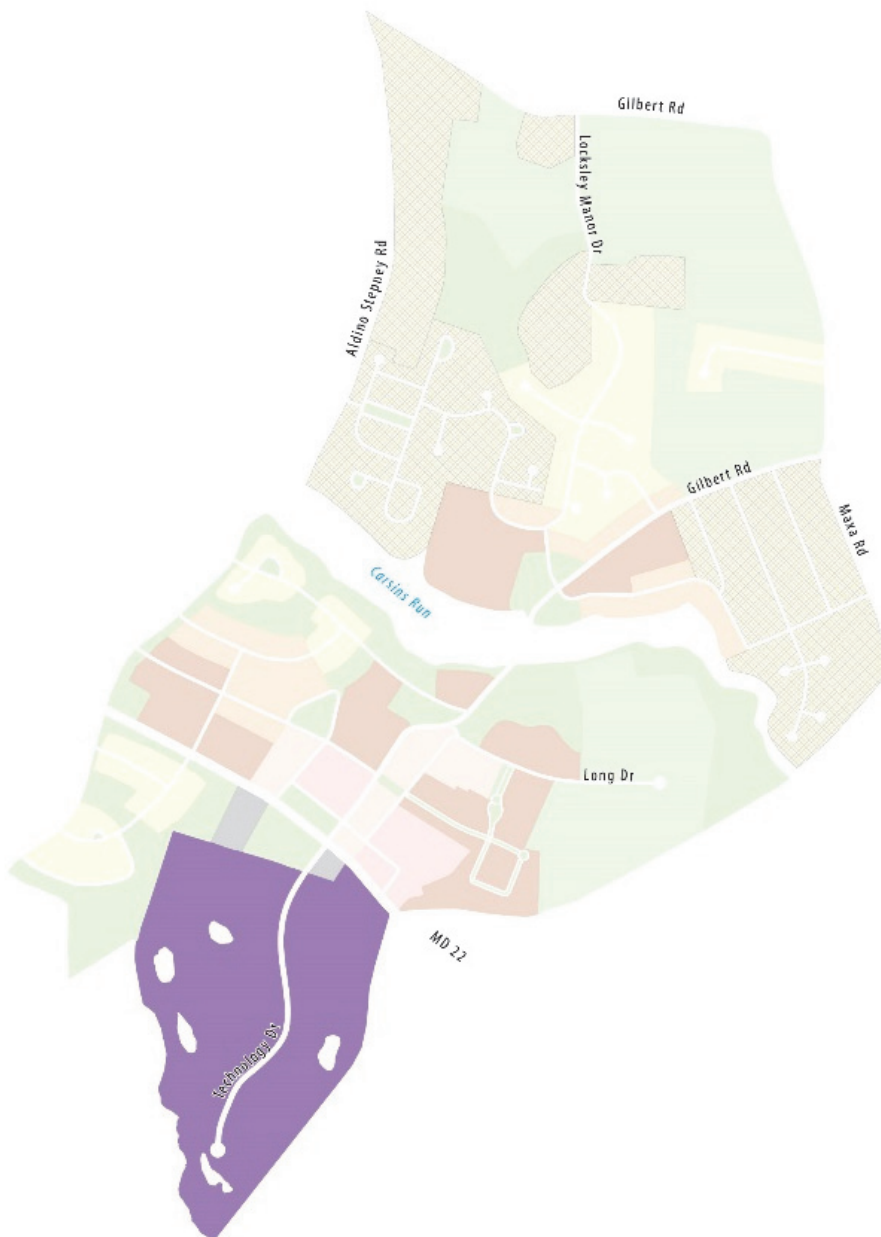




Employment

Employment uses are located south of MD 22 along Technology Drive at the location in purple on **Figure 4-7**. This includes the existing employment facilities—Battelle, the Aberdeen Technology Park, and the Advanced Manufacturing, Materials, and Processes (AMMP) program facility. Battelle owns the majority of the land in the Employment district, including three undeveloped parcels totaling approximately 110 acres. These undeveloped parcels have potential for new employment facilities complementary to Battelle’s operations at the Eastern Science and Technology Center. Such new employment development along Technology Drive enhance the overall community by supporting and strengthening Battelle operations while generating additional high-quality employment opportunities in proximity to the community hub and other residential and commercial areas.

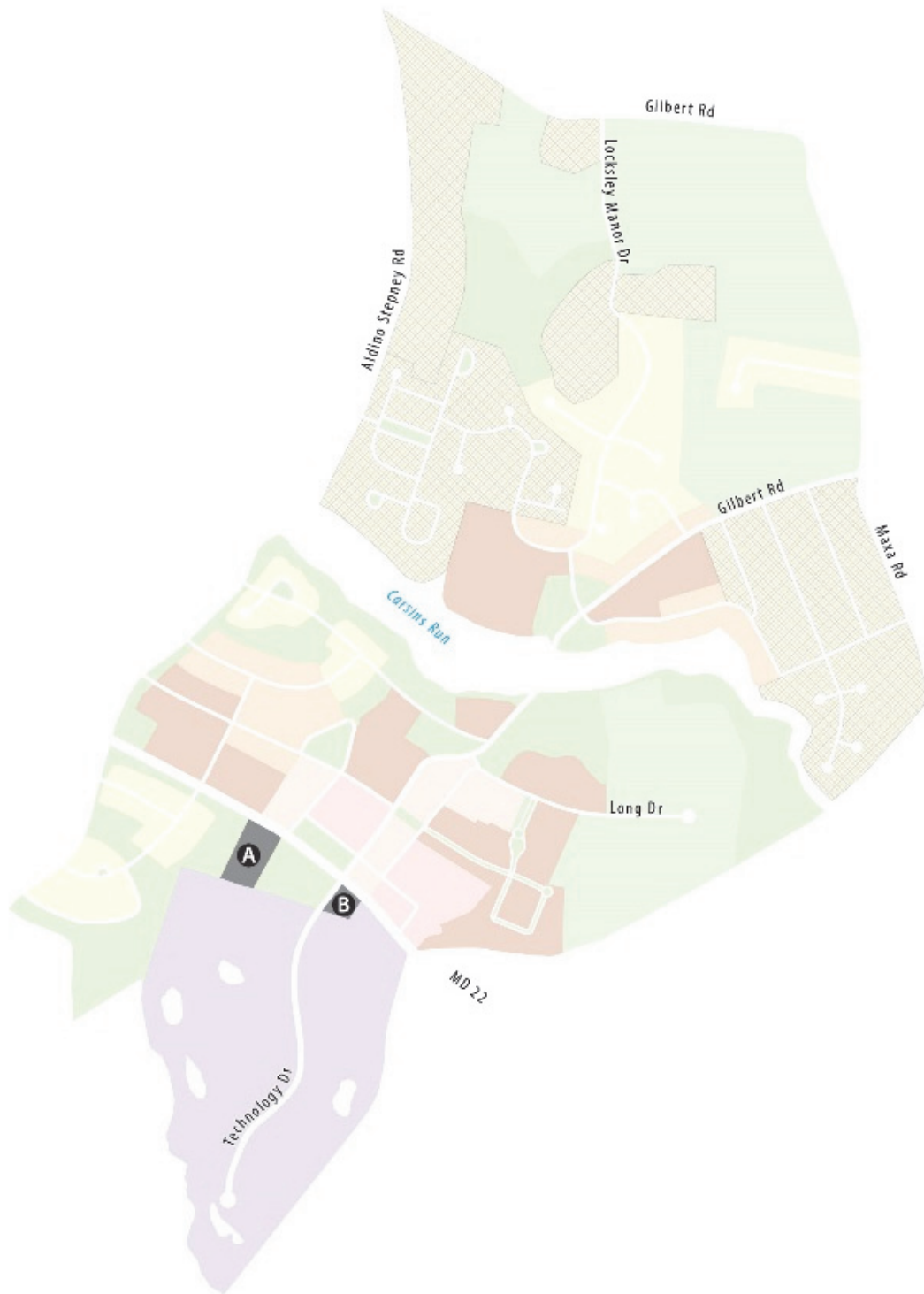
Figure 4-7. Employment Land Use Location



Institutional

There are two institutional uses that are existing today, both along the south side of MD 22 at locations identified on **Figure 4-8**. These are the Baker Cemetery (**A**) and the Maryland Transit Administration Park and Ride (**B**).

Figure 4-8. Institutional Land Use Locations





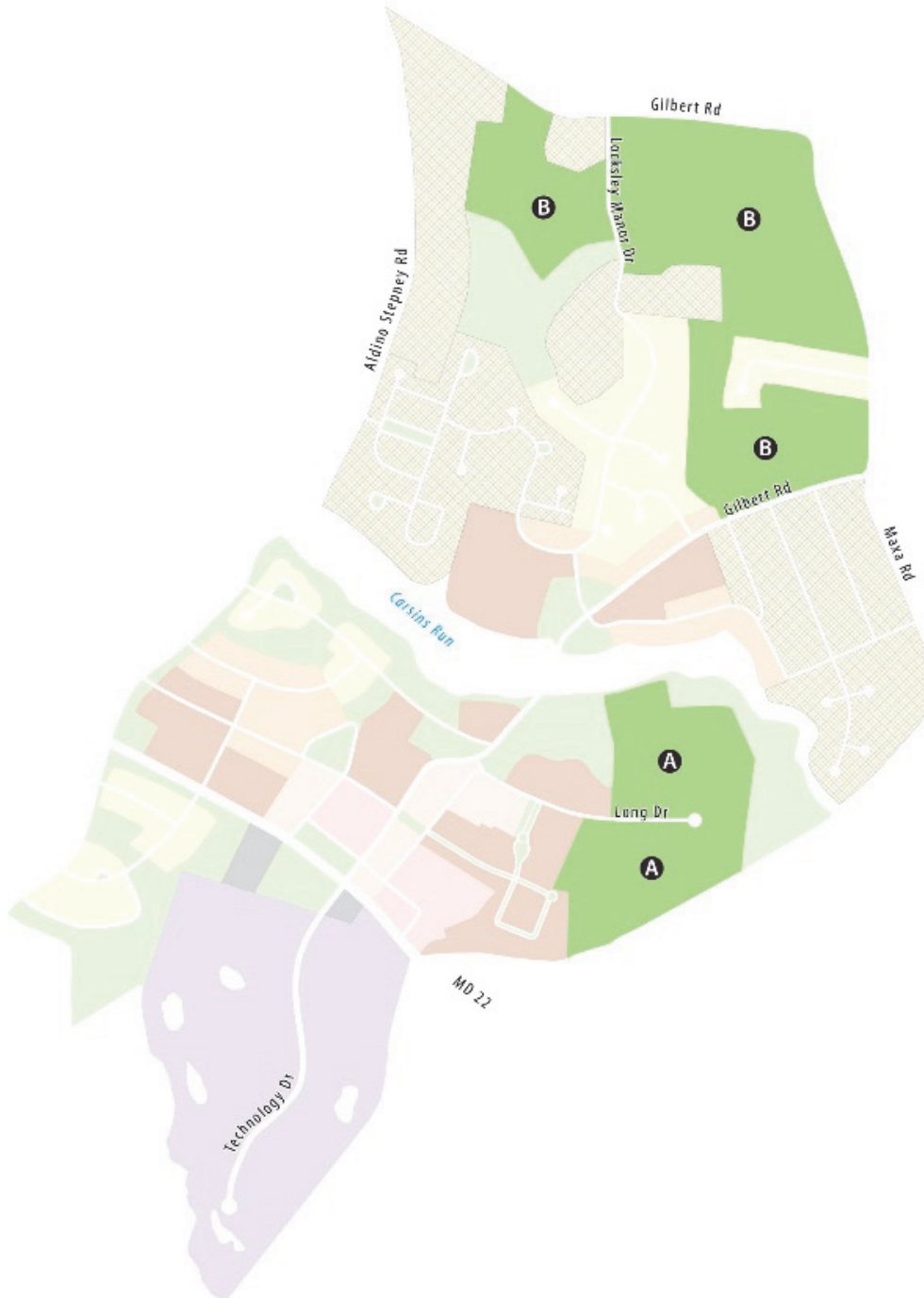
Aberdeen I-95 Area Land Use Study



Private Recreation

This Alternative preserves the existing private recreation facilities—Ripken Stadium and Cal Ripken Sr. Yard (A) and the Wetlands Golf Course (B) at locations identified on **Figure 4-9**. Although Ripken Stadium is publicly owned by the City of Aberdeen, it is reserved solely for use by the Class A Short Season Minor League Baseball team Aberdeen IronBirds, which is a private entity.

Figure 4-9. Private Recreation Land Use Locations





Green Space

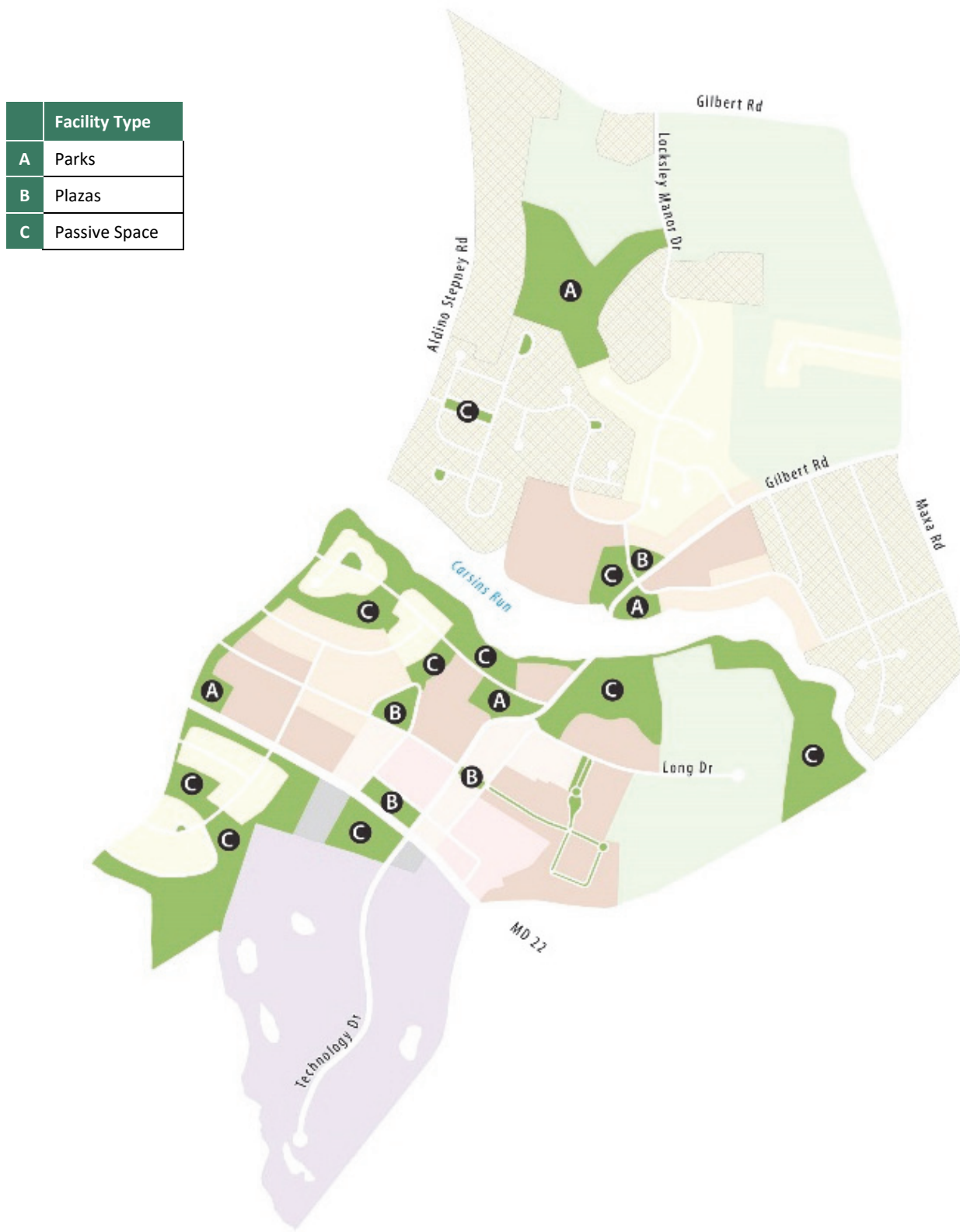
Green space is divided into three categories—parks, plazas and commons, and passive space at locations identified on **Figure 4-10**. Parks **(A)** are active recreational areas that may include play sets, walking paths, landscaped gardens, or other recreational or leisure activities. There are three main park spaces within this Alternative. One is at the gateway at the intersection of MD 22 and Aldino Stepney Road. The second is centrally located with the residential and mixed-use portions south of Carsins Run. The third is located along Gilbert Road and on the north bank of Carsins Run.

Plazas **(B)** are a mix of hardscape and landscaped areas that often contain a high amount of pedestrian traffic. These areas are associated with development and may provide outdoor seating areas and gathering spaces. There are two plazas in Alternative 1. One plaza space is located at the intersection of MD 22 and Long Drive, associated with the mixed-use core. The second plaza space is located along Gilbert Road north of Carsins Run and is an extension of the park space attached to the north bank of Carsins Run.

Passive space **(C)** includes natural forested areas that may include walking and biking trails, but limited recreation and seating opportunities. These areas help preserve the natural landscape of the area and support the integrity of the natural environment. The remaining green space consists of passive space, and largely includes the densely forested areas, wetlands, and floodplains that are sensitive to human activity.



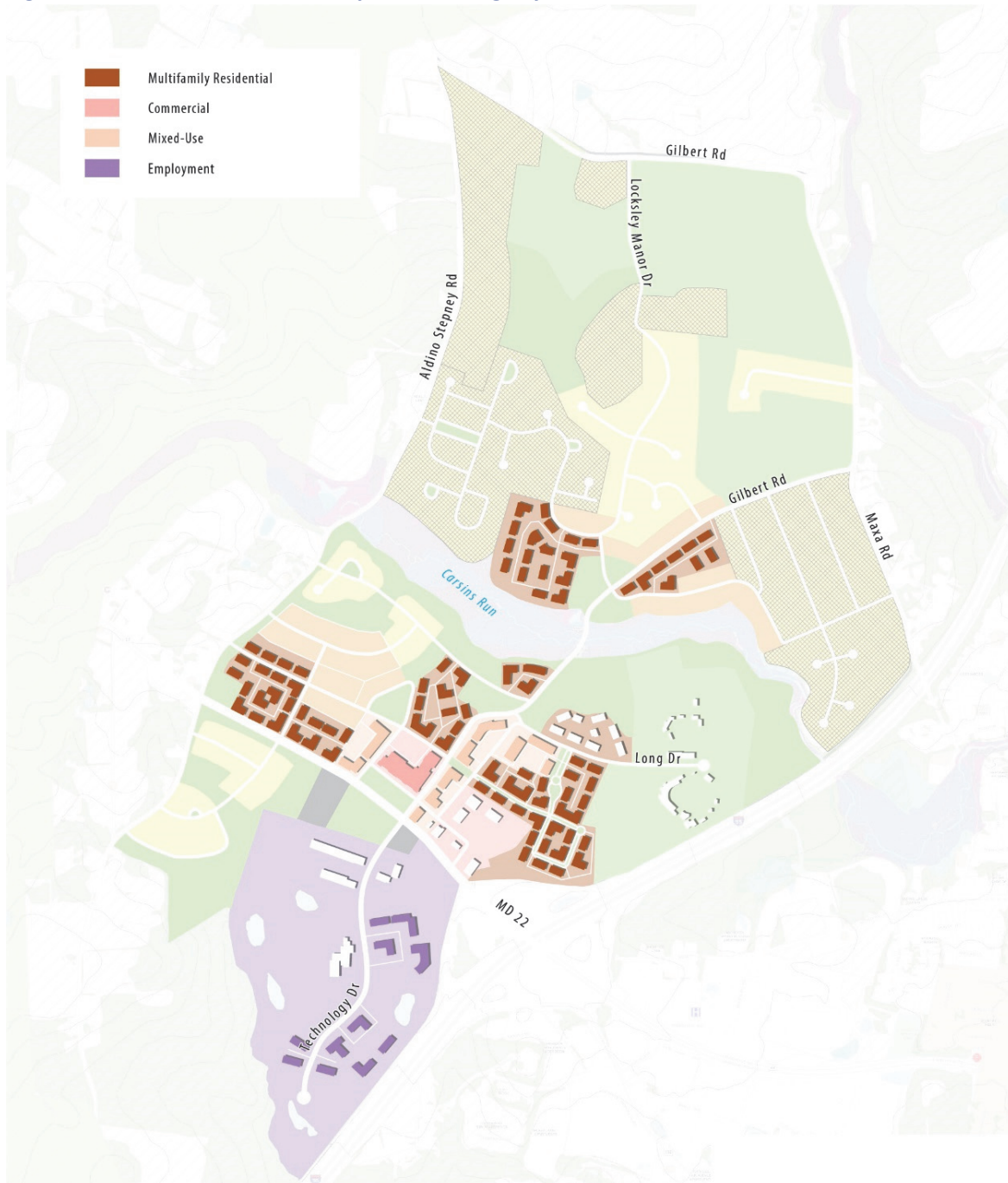
Figure 4-10. Green Space Land Use Locations



Conceptual Layout

Figure 4-11 illustrates a conceptual building layout within the multifamily, commercial, mixed-use, and employment land uses. Existing buildings are depicted in white and new buildings are colored in their respective land use color. It should be noted that although the Fieldside Commons building is existing, the structure would be converted into a mixed-use building in this alternative and is depicted as such.

Figure 4-11. Alternative 1 Conceptual Building Layout





Transportation Circulation

A transportation circulation system consists of the interconnected network of roads, paths, and trails that connect people to places. An efficient circulation system should provide multiple transportation options for residents and visitors alike to travel from place to place, including personal vehicles, bicycling, and walking. The future circulation system for Alternative 1 is broken down into two interrelated networks—a Roadway Network and Bike and Pedestrian Network—which are described in this section.

Roadway Network

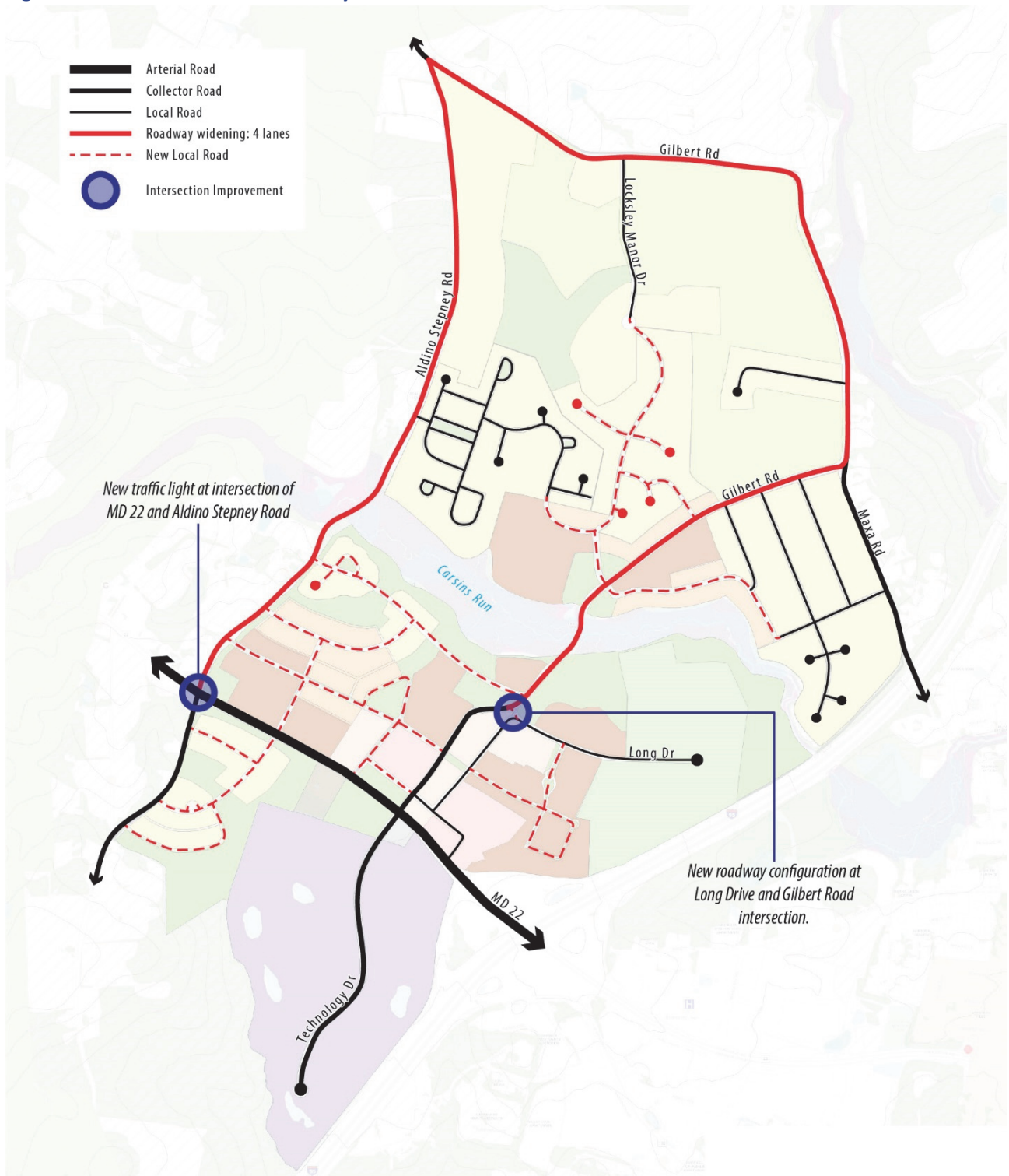
New roads are needed in the planning area to serve the proposed land uses and provide access to future developments. The area south of Carsins Run contains several new local roads connecting Aldino Stepney Road and Gilbert Road, as well as two new intersections at MD 22 to enhance connectivity through the higher density land uses. A robust roadway network north of Carsins Run is more difficult to develop while preserving the Wetlands Golf Course and residential homes along Aldino Stepney Road and Locksley Manor Drive. In this area, new local roads are woven between existing developments, including the Wetlands Golf Course, to connect the cul-de-sac at the terminus of Locksley Manor Drive to Gilbert Road near Carsins Run.

Alternative 1 also proposes widening Gilbert Road and Aldino Stepney Road north of MD 22 to four lanes. As new development increases the traffic, these two roads are the primary collector routes that will filter traffic to MD 22 in and out of the planning area. An additional lane in each direction will better facilitate traffic. In conjunction with this widening, Aldino Stepney Road would require a traffic light at the intersection with MD 22 to enhance safety at the intersection.

One other key improvement to the roadway network is the reconfiguration of the Long Drive and Gilbert Road intersection. To better connect Gilbert Road to MD 22, which are two of the main roads through the area, Long Drive is proposed to be realigned to continue through to Gilbert Road rather than intersecting Gilbert Road. This will help the flow of traffic east and west along Gilbert Road to and from MD 22.

The proposed roadway network for Alternative 1 is illustrated on **Figure 4-12**.

Figure 4-12. Alternative 1 Roadway Network





Bike and Pedestrian Network

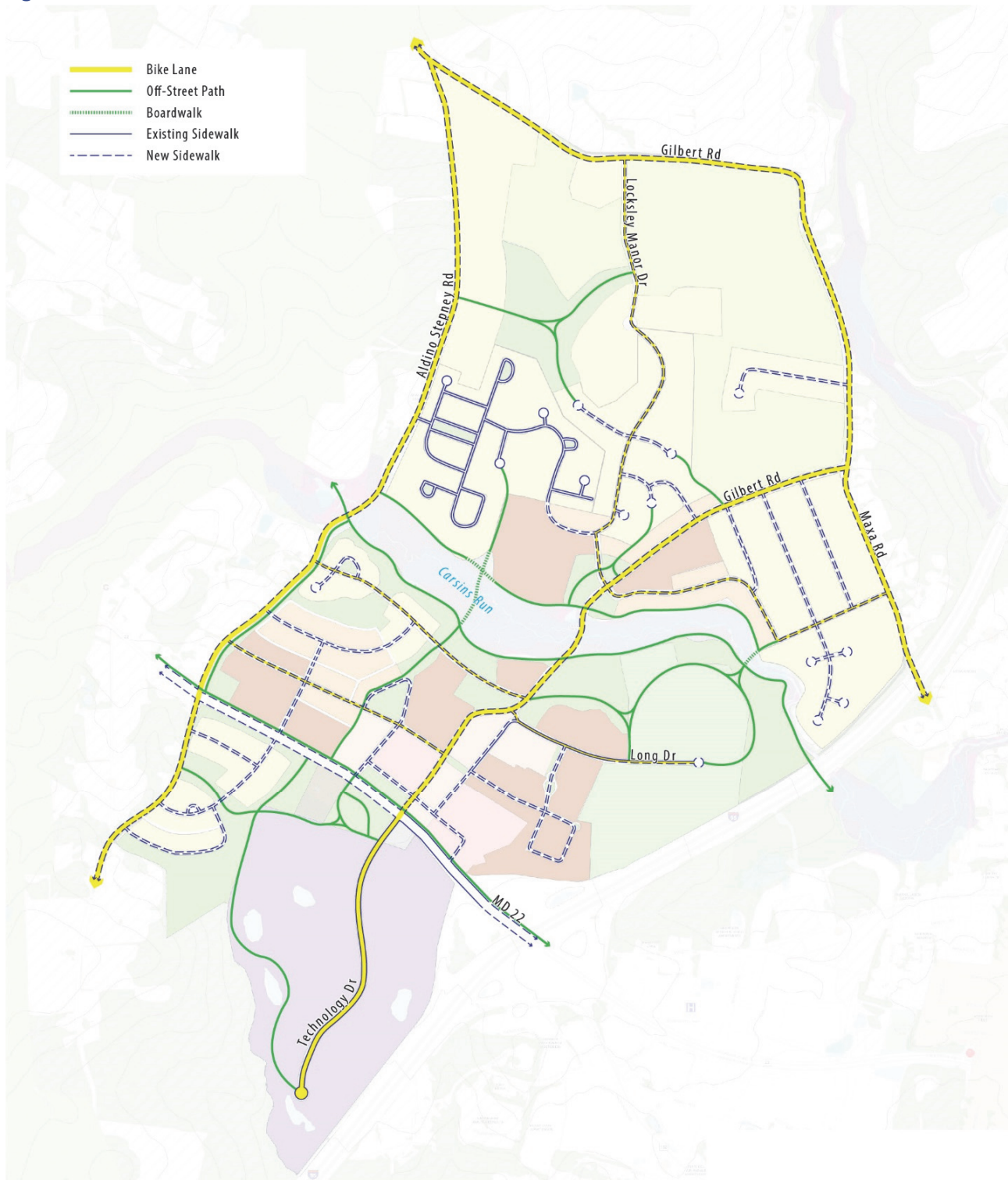
A safe and well-connected bike and pedestrian network is critical to reduce vehicular traffic, support healthy lifestyles, and create a greater sense of place. The bike and pedestrian network has two components—off-street paths and on-street paths. The proposed bike and pedestrian network for Alternative 1 is illustrated on **Figure 4-13**.

On-street bike and pedestrian paths consists of sidewalks and bike lanes within the public right-of-way. Sidewalks should be located along all streets to support and encourage a safe and enjoyable pedestrian experience. Bike lanes are be located along all collector routes, including Gilbert Road, Aldino Stepney Road, Technology Drive, Long Drive, and Maxa Road. Additional bike lanes are located along Locksley Manor Drive, as well as the two new local roads south of Carsins Run that connect Gilbert Road and Aldino Stepney Road. The other local residential streets do not require bike lanes due to the slow vehicular speeds and low traffic counts. These streets may accommodate both vehicular traffic and bicyclists in the same traffic lane. Bike lanes are not proposed along MD 22 due to the high volumes of traffic and vehicular speeds. Rather, MD 22 contains an off-street bike path parallel with the roadway, which would create a safer and more comfortable biking experience.

Off-street bike and pedestrian paths include paved and unpaved trails through parks and forested open spaces. This network helps enhance connectivity for pedestrians and bicyclists through a separate network from motor vehicles, making it a safer, more comfortable, and more enjoyable option for community members. As mentioned in the On-Street Paths subsection, MD 22 contains an off-street path parallel to the roadway, and connecting to many of the high intensity uses, and across I-95. Carsins Run also contains off-street paths on either side of the waterway along the floodplain to help engage users with nature. Other off-street paths help connect cyclists and pedestrians across the planning area through parks, open spaces, and integrated with and between developments. Off-street paths should also connect to cul-de-sacs to help connect dead-end roads to the greater circulation network, where feasible.

Generally, off-street paths should be constructed of pervious pavement, which provides a solid footing for cyclists and pedestrians, and can absorb water back into the ground onsite. Where off-street paths cross the Carsins Run floodplain and other wetlands, paths consist of a low-impact boardwalk construction to minimize negative affects to the sensitive environment and damage to the path's integrity.

Figure 4-13. Alternative 1 Bike and Pedestrian Network

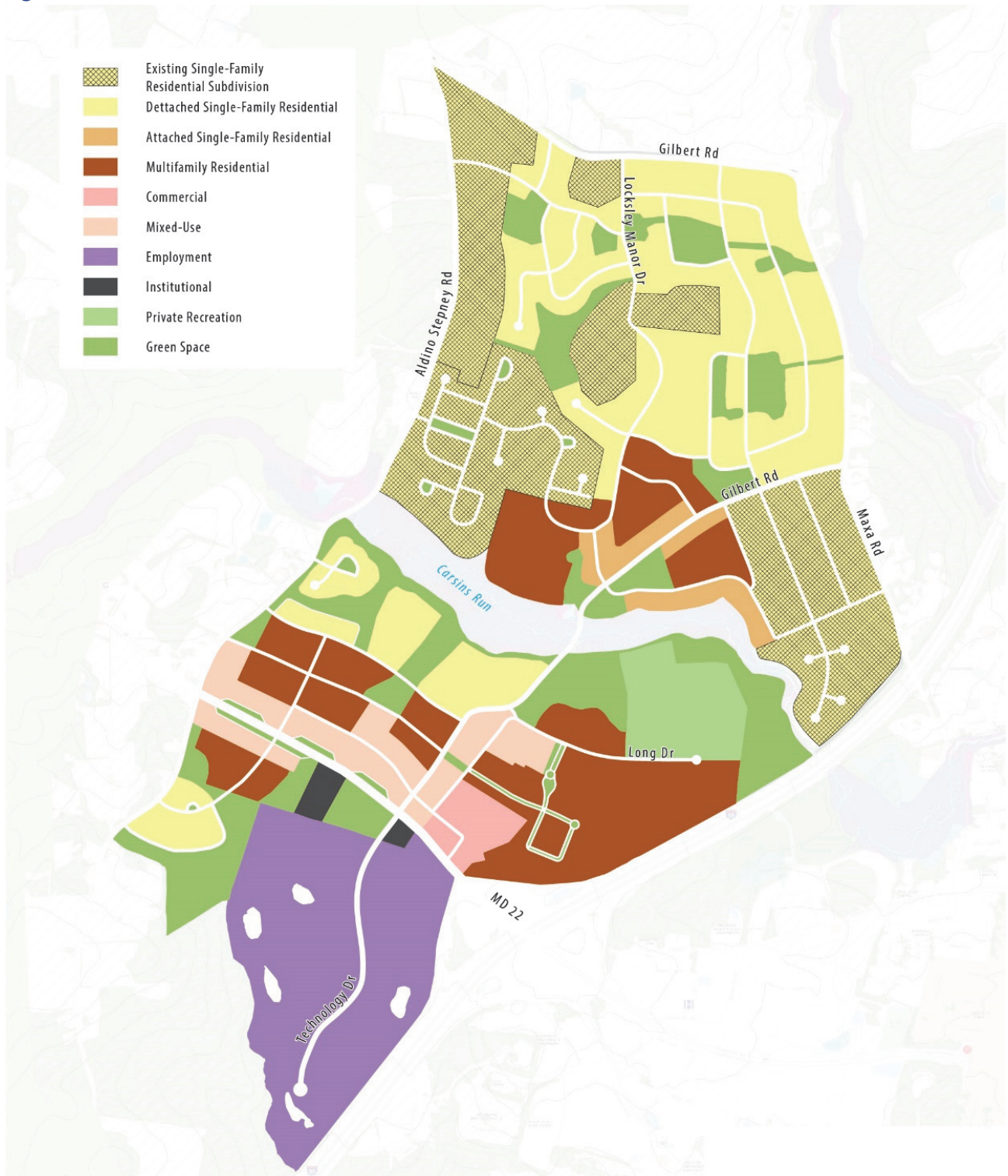




4.4 Alternative 2: Main Street

The Main Street Alternative creates a high-intensity, mixed-use main street environment along MD 22, providing a walkable destination for local residents, and a regional destination for motorists along the highly-trafficked corridor and off Interstate-95. This Alternative retains the existing residential subdivisions of Adams Heights and Eagles Rest but redevelops Wetlands Golf Course and Ripken Stadium for new residential development for an increased population base in the planning area. In total, this Alternative has capacity for 3,746 new housing units and nearly 798,200 of new commercial square footage based on calculated residential densities and nonresidential intensities. The Main Street Alternative Land Use Plan is illustrated on **Figure 4-14**.

Figure 4-14. Alternative 2 Land Use





Land Use

Detached Single-Family Residential

Providing a variety of detached single-family residential lot sizes supports housing diversity in a community at locations identified on **Figure 4-15**. Detached single-family land uses are largely located north of Carsins Run. In this Alternative, the Wetlands Golf Course is redeveloped as a detached-single family residential neighborhood (**A**). Redeveloping the Wetlands Golf Course into a detached single-family residential neighborhood greatly increases the housing potential in Planning Area 10 – Gilbert, with capacity to support approximately 466 lots. This increased housing development potential can support larger lot sizes, similar to those in Adams Heights or Eagles Rest, which is suitable to meet Aberdeen’s future housing needs.

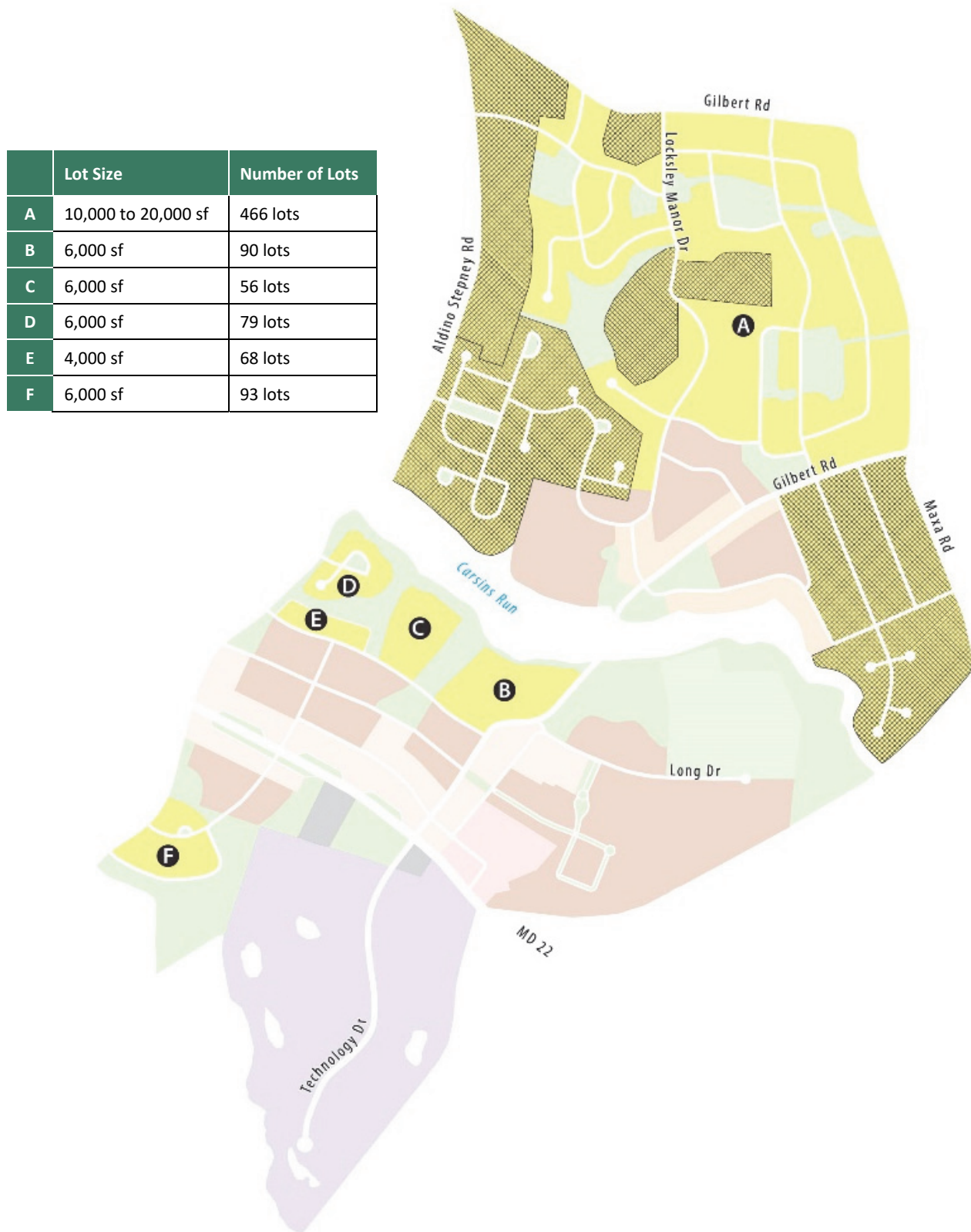
The detached single-family residential pods south of Carsins Run consist of smaller lot sizes, approximately 4,000 and 6,000 square feet. These smaller lot sizes are more compatible with the higher density uses along MD 22 and Long Drive.

The total buildout for detached single-family residential land uses in Alternative 2 is listed in Table 4-6.

Table 4-6 Alternative 2 Detached Single-Family Residential Buildout

	Lot Size	Number of Lots
A	10,000 to 20,000 sf	466 lots
B	6,000 sf	90 lots
C	6,000 sf	56 lots
D	6,000 sf	79 lots
E	4,000 sf	68 lots
F	6,000 sf	93 lots

Figure 4-15. Detached Single-Family Residential Land Use Locations





Attached Single-Family Residential

Attached single-family residential homes provide additional density to a single-family residential neighborhood, while preserving the neighborhood character at locations identified on **Figure 4-16**. Various types of attached single-family residential homes include townhomes, rowhomes, duplexes, and triplexes, each of which may vary in size, cost, and design. These types of residential developments help transition between a dense urban form to a lower-density detached single-family neighborhood.

Alternative 2 focuses attached single-family residential development north of Carsins Run, largely along Gilbert Road adjacent to the community open space and multifamily residential development. The units along Gilbert Road (**A** and **B**) consist of rowhomes, which screen the higher-density multifamily residential uses from view along the roadway. The attached single-family residential units along the north bank of Carsins Run’s floodplain (**C**) consist of townhomes, which are more porous than rowhomes and help preserve views and access to Carsins Run along the roadway.

The total buildout for attached single-family residential land uses in Alternative 2 is listed in Table 4-7.

Table 4-7 Alternative 2 Attached Single-Family Residential Buildout

	Lot Size (square feet)	Number of Lots
A	4,000 sf	132 lots
B	4,000 sf	45 lots
C	4,000 sf	128 lots

Figure 4-16. Attached Single-Family Residential Land Use Locations

	Lot Size (square feet)	Number of Lots
A	4,000 sf	132 lots
B	4,000 sf	45 lots
C	4,000 sf	128 lots





Multifamily Residential

Multifamily residential developments provide an additional layer of housing diversity for a full range of residential options at locations shown on **Figure 4-17**. Multifamily residential uses south of Carsins Run are located adjacent to the mixed-use main street, creating an extra level of density to support a robust, active mixed-use district along MD 22 (**D**, **E**, and **F**). In this Alternative, Ripken Stadium, as well as the associated surface parking, is redeveloped as a multifamily residential complex (**G**). An example of this type of conversion is Bush Stadium in Indianapolis, Indiana. After the Triple A, Indianapolis Indians relocated to a new stadium in 1996, the stadium was converted into the Stadium Lofts in 2013. The total cost of stadium renovation was approximately \$13 million, with the city funding \$5 million. Photos of this development are provided on the following page.

Multifamily residential uses north of Carsins Run (**A**, **B**, and **C**) are generally clustered around the community open space along Gilbert Road and the north bank of the floodplain. Increasing densities surrounding community assets maximizes the population within walking distance.

The total buildout for multifamily residential land uses in Alternative 2 is listed in Table 4-8.

Table 4-8 Alternative 2 Multifamily Residential Buildout

	Density (dwelling units per acre)	Number of Units
A	8 du/ac	203 units
B	8 to 10 du/ac	159 units
C	10 du/ac	102 units
D	10 to 12 du/ac	374 units
E	10 to 12 du/ac	100 units
F	12 du/ac	113 units
G	10 to 12 du/ac	687 units

Figure 4-17. Attached Single-Family Residential Land Use Locations

	Density (dwelling units per acre)	Number of Units
A	8 du/ac	203 units
B	8 to 10 du/ac	159 units
C	10 du/ac	102 units
D	10 to 12 du/ac	374 units
E	10 to 12 du/ac	100 units
F	12 du/ac	113 units
G	10 to 12 du/ac	687 units



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Artist rendering of the Bush Stadium Lofts in Indianapolis.
Source: Core Redevelopment, via HistoricIndianapolis.com



Broader view of the Bush Stadium Lofts complex.
Source: Core Redevelopment



Main entrance at the historic Homeplate Gate.
Source: Brandon Smith, via Angie's List



View of field from interior balcony.
Source: Core Redevelopment



Common area within the Bush Stadium Lofts with views into the field.
Source: Core Redevelopment



View of the Bush Stadium Lofts from ballfield.
Source: Brandon Smith, via Angie's List

Commercial

Commercial uses provide places for commerce and entertainment, supplementing the mixed-use main street along MD 22 at locations identified on **Figure 4-18**. The only commercial uses in Alternative 2 is the Stadium Towne Center development (**A**), which is currently under construction.

The total buildout for commercial land uses in Alternative 2 is listed in Table 4-9.

Table 4-9 Alternative 2 Commercial Buildout

	Commercial Space (square feet)
A	65,000 sf (under construction)

Figure 4-18. Commercial Land Use Locations





Mixed-Use

Mixed-use includes multiple uses occupying a single building or a single property at locations identified on **Figure 4-19**. A mix of uses within a mixed-use development are often commercial retail and / or office on the ground floor and residential units on the upper floors. A mixed-use development may also be horizontally configured, where commercial uses are oriented along a street front and residential uses are located in the rear of a property.

This Alternative locates mixed-use developments along MD 22 (**A, B, C, and D**), converting the corridor into a walkable main street atmosphere. The area between Long Drive and Gilbert Road (**E**) is also retained for mixed-use development, similar to Alternative 1.

Additionally, the vacant structure at Fieldside Commons (**F**) is adaptively reused as a mixed-use development, featuring retail uses on the ground floor and residential units above.

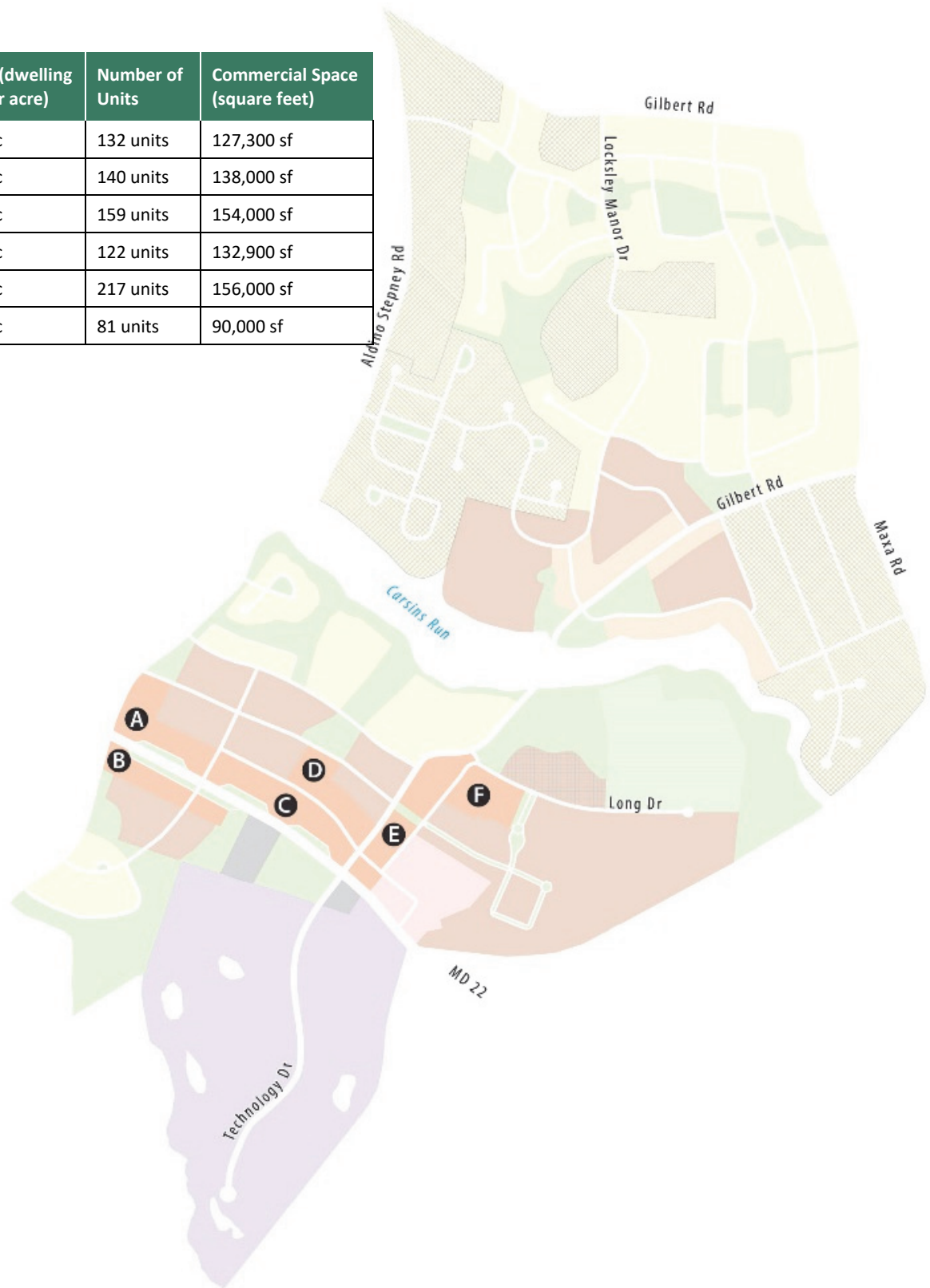
The total buildout for mixed-use land uses in Alternative 2 is listed in Table 4-10.

Table 4-10 Alternative 2 Mixed Use Buildout

	Density (dwelling units per acre)	Number of Units	Commercial Space (square feet)
A	18 du/ac	132 units	127,300 sf
B	18 du/ac	140 units	138,000 sf
C	18 du/ac	159 units	154,000 sf
D	14 du/ac	122 units	132,900 sf
E	18 du/ac	217 units	156,000 sf
F	12 du/ac	81 units	90,000 sf

Figure 4-19. Mixed-Use Land Use Locations

	Density (dwelling units per acre)	Number of Units	Commercial Space (square feet)
A	18 du/ac	132 units	127,300 sf
B	18 du/ac	140 units	138,000 sf
C	18 du/ac	159 units	154,000 sf
D	14 du/ac	122 units	132,900 sf
E	18 du/ac	217 units	156,000 sf
F	12 du/ac	81 units	90,000 sf





Employment

Employment uses are located south of MD 22 along Technology Drive at the location identified in purple on **Figure 4-20**. This includes the existing employment facilities—Battelle, the Aberdeen Technology Park, and the Advanced Manufacturing, Materials, and Processes (AMMP) facility. Battelle owns the majority of the land in the Employment district, including three undeveloped parcels totaling approximately 110 acres. These undeveloped parcels have potential for new employment facilities reciprocal and complementary to Battelle’s operations at the Eastern Science and Technology Center. Such new employment development along Technology Drive enhance the overall community by supporting and strengthening the operations at the Battelle Eastern Science and Technology Center, while generating additional high-quality employment opportunities in proximity to the community hub and other residential and commercial areas.

Figure 4-20. Employment Land Use Location



Institutional

There are two institutional uses that are existing today, both along the south side of MD 22 at locations identified on **Figure 4-21**. These are the Baker Cemetery (A) and the Maryland Transit Administration Park and Ride (B).

Figure 4-21. Institutional Land Use Locations





Private Recreation

Alternative 2 proposes redeveloping the Wetlands Golf Course and Ripken Stadium for residential development as indicated in **Figure 4-22**. The Wetlands Golf Course is redeveloped as a single-family residential neighborhood with an interconnected system of parks and open spaces. Ripken Stadium (although publicly owned) is converted into multifamily residential units. The ancillary ball fields in Memorial Park, including Cal Ripken Sr Yard, are preserved for their continued use as youth baseball tournaments (**D**).

Green Space

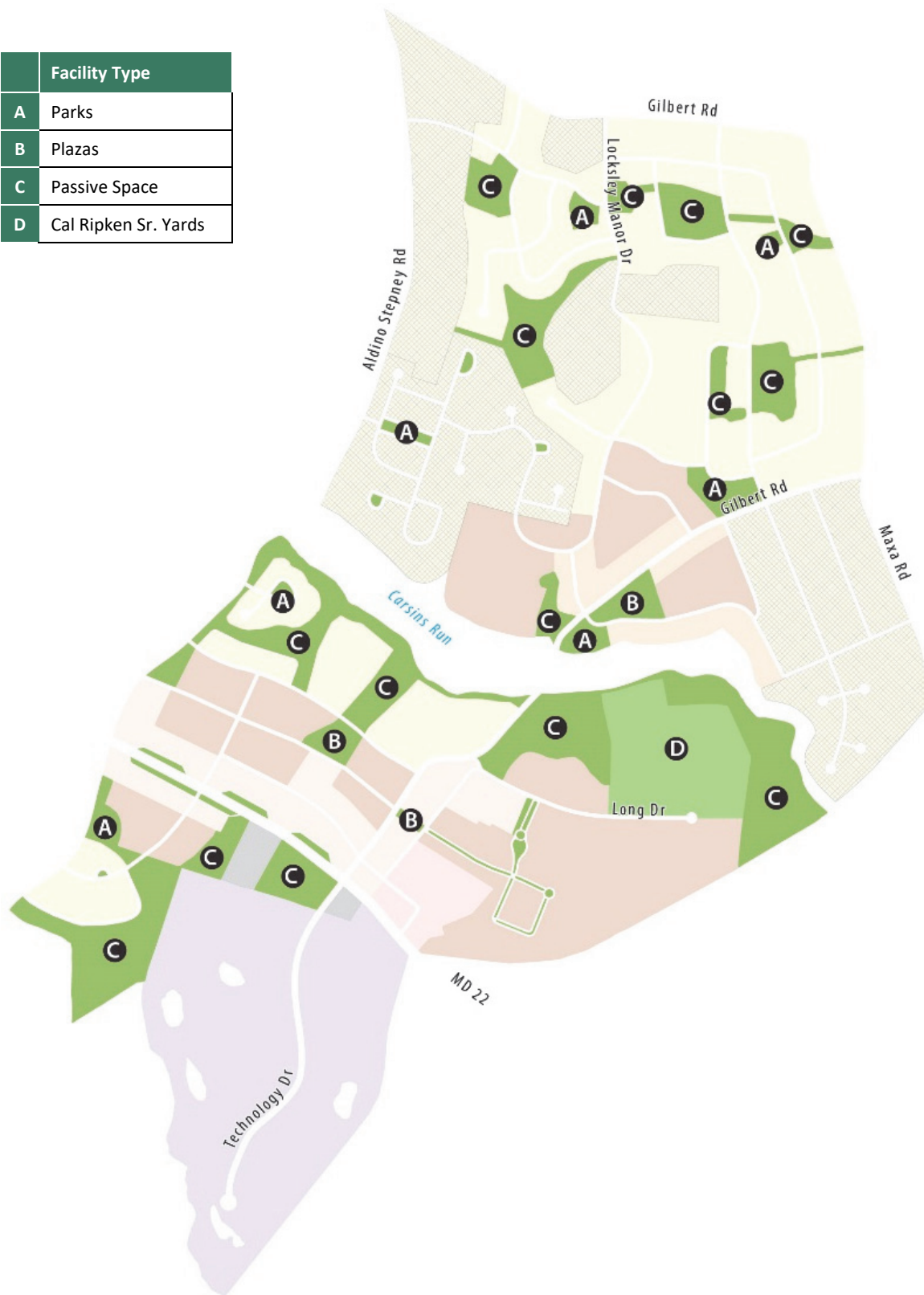
Green space is divided into three categories—parks, plazas and commons, and passive space at locations identified on **Figure 4-22**. Parks (**A**) are active recreational areas that may include play sets, walking paths, landscaped gardens, or other recreational or leisure activities. In this Alternative, active parks are incorporated into the redevelopment of the Wetlands Golf Course to serve the needs of the new residential development. A second park is located on the north bank of Carsins Run along Gilbert Road, in combination with a plaza and passive open space at the center of the community. Two parks are located south of Carsins Run, associated with future residential development north and south of MD 22.

Plazas (**B**) are a mix of hardscape and landscaped areas that often contain a high amount of pedestrian traffic. These areas are associated with development and may provide outdoor seating areas and gathering spaces for commercial establishments. There are three plazas identified in this Alternative—two south of Carsins Run and one north. The plazas south of Carsins Run are centrally located, connecting the mixed-use main street with the higher-density multifamily residential uses. The plaza north of Carsins Run is associated with the park space and multifamily residential development along Gilbert Road in the center of the community.

Passive space (**C**) includes natural forested areas that may include walking and biking trails, but limited recreation and seating opportunities. These areas help preserve the natural landscape of the area and support the integrity of the natural environment. The remaining green space consists of passive space, and largely includes the densely forested areas, wetlands, and floodplains that are sensitive to human activity.

Figure 4-22. Recreation and Green Space Land Use Locations

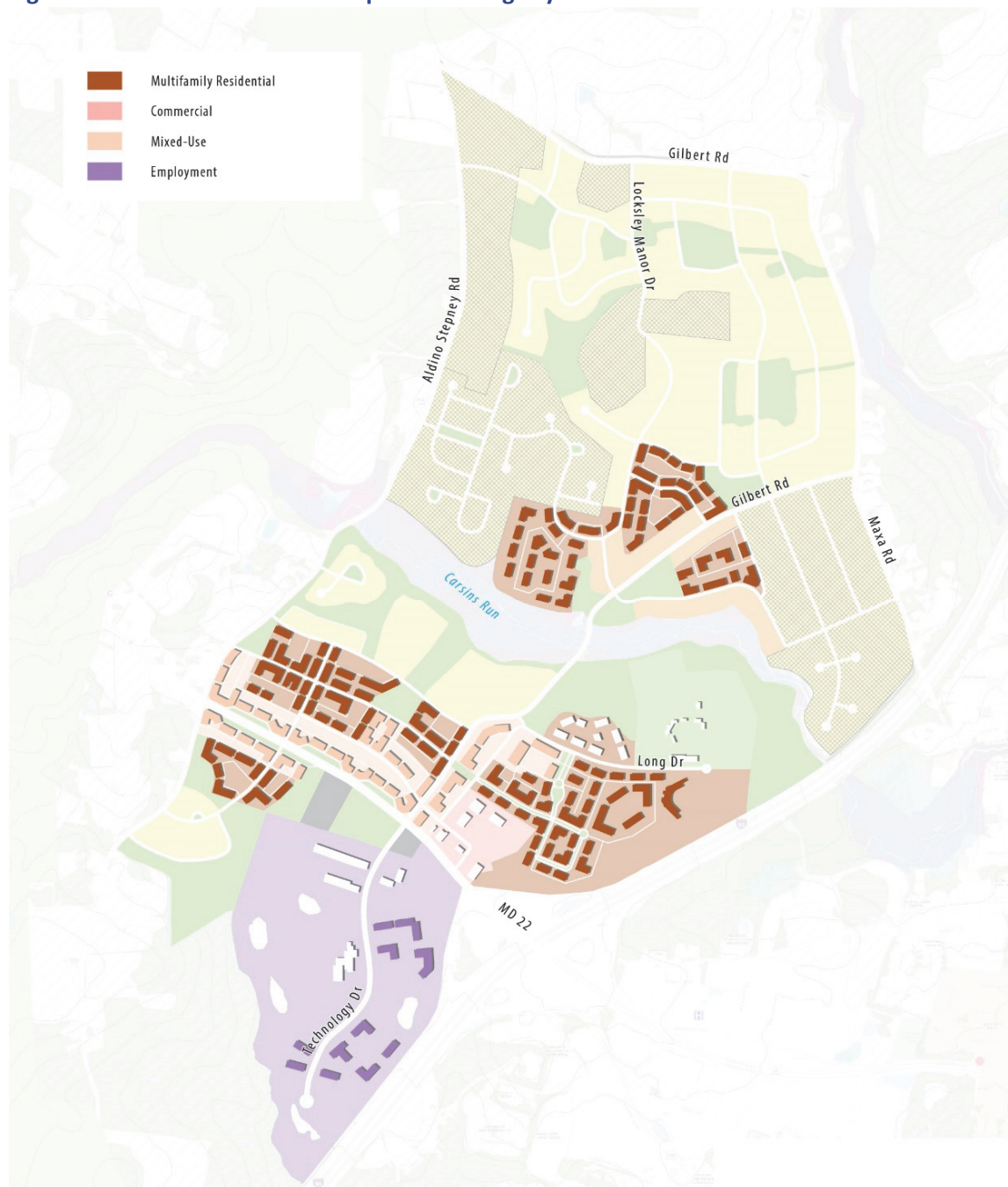
	Facility Type
A	Parks
B	Plazas
C	Passive Space
D	Cal Ripken Sr. Yards



Conceptual Layout

Figure 4-23 illustrates a conceptual building layout within the multifamily, commercial, mixed-use, and employment land uses. Existing buildings are depicted in white, whereas new buildings are colored in their respective land use color. It should be noted that although the Fieldside Commons building and Ripken Stadium are existing, the structures were converted into a mixed-use building and multifamily residential structure in this Alternative and are depicted as such.

Figure 4-23. Alternative 2 Conceptual Building Layout





Transportation Circulation

A transportation circulation system consists of the interconnected network of roads, paths, and trails that connects people to places. An efficient circulation system should provide multiple transportation options for residents and visitors alike to travel from place to place, including personal vehicles, bicycling, and walking. The future circulation system for Alternative 2 is broken down into two interrelated networks—a Roadway Network and Bike and Pedestrian Network—which are described in this section.

Roadway Network

New roads are needed in the planning area to serve the proposed land uses and provide access to future developments. The area south of Carsins Run contains several new local roads connecting Aldino Stepney Road and Gilbert Road, as well as an additional intersection at MD 22 to enhance connectivity through the higher density land uses. With the redevelopment of the Wetlands Golf Course north of Carsins Run, new local roadways are needed to connect and provide access to the residential development.

Alternative 2 also proposes widening Gilbert Road and Aldino Stepney Road north of MD 22 to four lanes. As new development increases the traffic, these two roads are the primary collector routes that will filter traffic to MD 22 in and out of the planning area. An additional lane in each direction will better facilitate traffic. In conjunction with this widening, Aldino Stepney Road would require a traffic light at the intersection with MD 22 to enhance safety at the intersection.

One other key improvement to the roadway network is reconfiguration of the Long Drive and Gilbert Road intersection. To better connect Gilbert Road to MD 22, which are two of the main roads through the area, Long Drive is proposed to be reconfigured to continue through to Gilbert Road rather than coming to a 4-way intersection. This will help the flow of traffic east and west along Gilbert Road to and from MD 22.

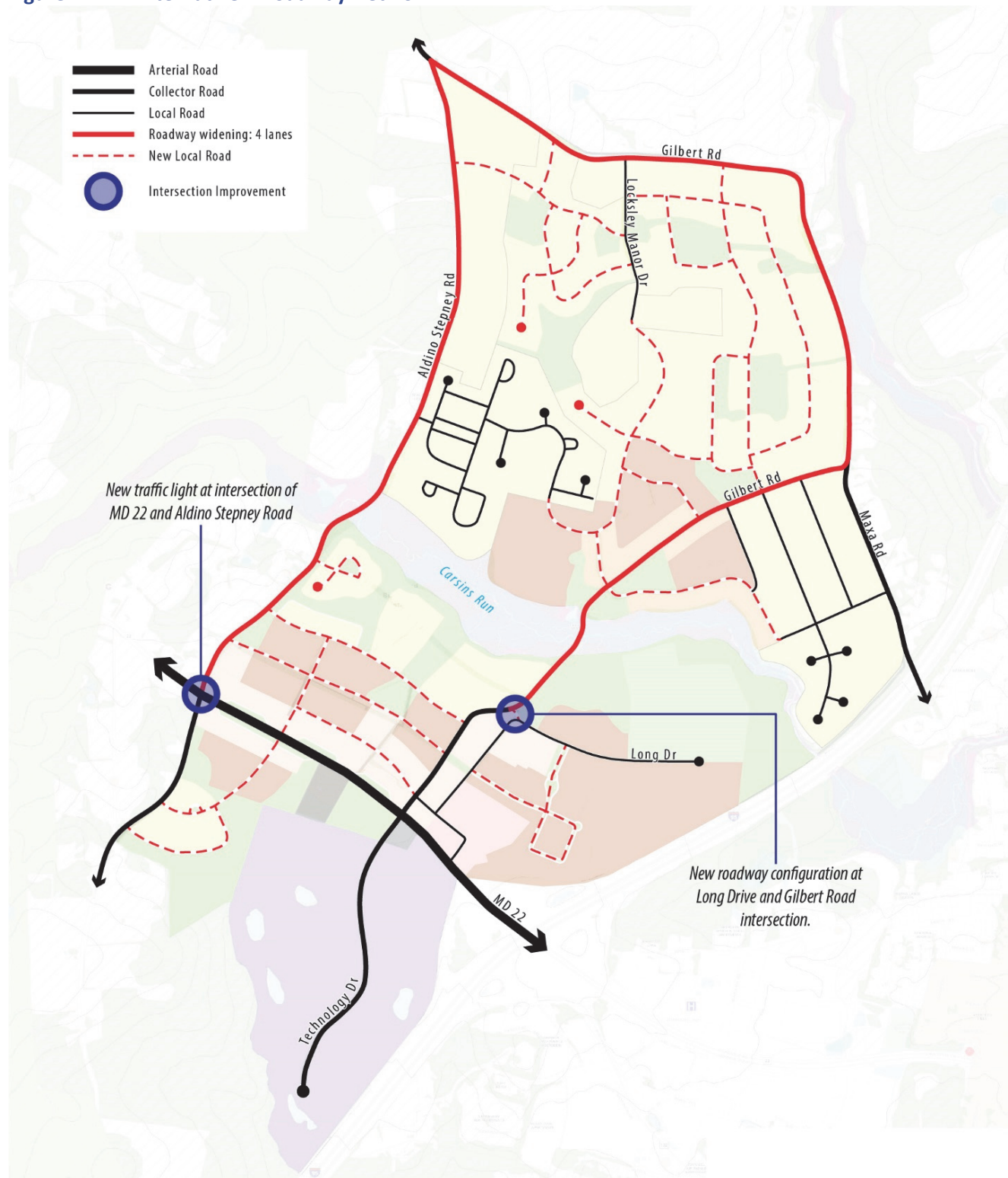
The proposed roadway network for Alternative 2 is illustrated on **Figure 4-24**.



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Figure 4-24. Alternative 2 Roadway Network





Bike and Pedestrian Network

A safe and well-connected bike and pedestrian network is critical to reduce vehicular traffic, support healthy lifestyles, and create a greater sense of place. The bike and pedestrian network has two components—off-street paths and on-street paths. The proposed bike and pedestrian network for Alternative 2 is illustrated on **Figure 4-25**.

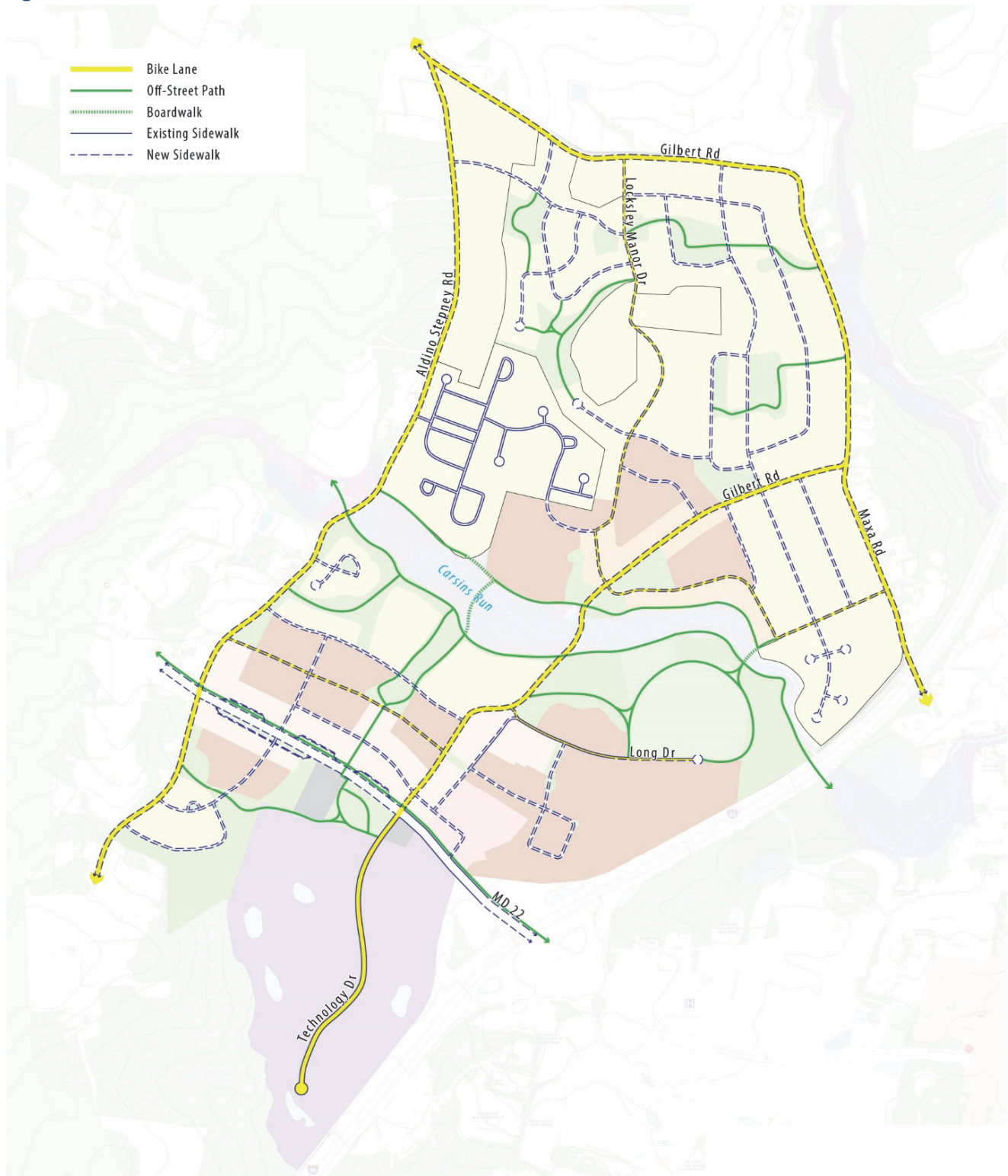
On-street bike and pedestrian paths consists of sidewalks and bike lanes within the public right-of-way. Sidewalks should be located along all streets to support and encourage a safe and enjoyable pedestrian experience. Bike lanes are be located along all collector routes, including Gilbert Road, Aldino Stepney Road, Technology Drive, Long Drive, and Maxa Road. Additional bike lanes are located along Locksley Manor Drive, as well as one of the new local roads south of Carsins Run that travels through the multifamily residential area, connecting Gilbert Road and Aldino Stepney Road. The other local residential streets do not require bike lanes due to the slow vehicular speeds and low traffic counts. These streets may accommodate both vehicular traffic and bicyclists in the same traffic lane. Bike lanes are not proposed along MD 22 due to the high volumes of traffic and vehicular speeds. Rather, MD 22 contains an off-street bike path parallel with the roadway, which would create a safer and more comfortable biking experience.

Off-street bike and pedestrian paths include paved and unpaved trails through parks and forested open spaces. This network helps enhance connectivity for pedestrians and bicyclists through a separate network from motor vehicles, making it a safer, more comfortable, and more enjoyable option for community members. As mentioned in the On-Street Paths subsection, MD 22 contains an off-street path parallel to the roadway and connecting to the mixed-use developments along the main street. Carsins Run also contains off-street paths on either side of the waterway along the floodplain to help engage users with nature. Other off-street paths help connect cyclists and pedestrians across the planning area through parks, open spaces, and integrated with and between developments. Off-street paths should also connect to cul-de-sacs to help connect dead-end roads to the greater circulation network, where feasible.

Generally, off-street paths should be constructed of pervious pavement, which provides a solid footing for cyclists and pedestrians, and can absorb water back into the ground onsite. Where off-street paths cross the Carsins Run floodplain and other wetlands, paths consist of a low-impact boardwalk construction to minimize negative affects to the sensitive environment and damage to the path's integrity.



Figure 4-25. Alternative 2 Bike and Pedestrian Network





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5. Design Guidelines

The Design Guidelines provide landowners and developers with guidance on the types and quality of design the city desires within the Study Planning Area. The Design Guidelines will be used to influence new development and redevelopment projects in a manner that enhances the aesthetics and overall sense of place. These guidelines were created for use by the community, land developers, and City staff. The guidelines are organized by each general type of land use per the following:

- **Detached Single-Family Residential.** Detached single-family residential homes are standalone households on a single property, occupied by one family.
- **Attached Single-Family Residential.** Attached single-family residential homes are individual homes occupied by one family, but share a common wall between units. Types of attached single-family residential uses include duplexes, townhomes, and rowhomes.
- **Multifamily Residential.** Multifamily residential buildings feature many small residential units within the same structure. Types of multifamily residential units include apartments and condominiums.
- **Commercial.** Commercial uses provide places to shop, dine, entertain, and other forms of urban services and commerce.
- **Mixed-Use.** Mixed-use includes developments that contain two or more uses, either horizontally on one property or vertically in the same structure. Typically, mixed-use developments feature commercial uses on the ground floor with residential units on the upper floors.
- **Employment.** Employment uses include locations for research and development, manufacturing, institutions, or other industries. These sites often require large facilities and / or campuses that hold many employees and can accommodate a variety of functions, such as production, testing, meetings, etc.

5.1 Purpose and Implementation

In general, Design Guidelines provide guidance that helps to shape the form and function of community development, and can be used to promote:

- Quality building design standards that enhance the community's character,
- Healthy lifestyles by encouraging pedestrian activity; and
- Public open spaces and common areas that create a vibrant sense of place.

This document includes graphics for the purpose of illustration and simplification. The images used to illustrate compliance with the standards should be reviewed in the context of the specific guidelines with which the image is associated and not necessarily in relation to all the guidelines in this document. To the extent that there is any inconsistency between the narrative description of the guidelines and graphic illustrations of them, the text should be considered definitive.



5.2 Guiding Principles

These Design Guidelines were developed using three principles:

- **Memorable Pedestrian Experience.** Promote design that enhances the pedestrian experience in the public realm.

Most memorable and iconic places are experienced on foot. Designing attractive places for residents and visitors to walk, shop, recreate, and engage with each other is important in creating active, engaging communities. Designing the public realm first and foremost for the pedestrian ensures that all new development supports a pedestrian-friendly environment.

- **Cohesive Development.** Create cohesive developments consistent with the community's vision that contribute to the overall sense of place.

Each individual development influences a community's sense of place. Cohesive developments that relate to one another help strengthen the sense of place and community identity. New developments that correlate, connect, and integrate with nearby developments can be mutually beneficial for each property and the community as a whole.

- **High-Quality Built Environment.** Develop a high-quality built environment that retains and grows economic activity.

Well-planned, high-quality developments retain their value over time, and generate additional economic activity within the community. A high-quality built environment attracts residents, businesses, and visitors, which in turn cultivates desirable neighborhoods, vibrant commercial hubs, and dynamic employment centers.

5.3 Key Design Elements

There are three primary design elements used to describe the general look and feel of structures that is desired for a given place, and that influence the pedestrian experience in the public realm. These elements are embedded in the Design Guidelines in various combinations to help formulate a greater sense of place. The three design principles defined in this document are:

- Context
- Mass
- Frontage

Context

Context includes the surrounding area that may be affected by or influence new development. Context may include adjacent or nearby properties, as well as natural areas that could be impacted. Designing context-sensitive developments helps create a cohesive character within the community.



Mass

Mass describes the overall three-dimensional size of a building or structure. Variances in massing can alter pedestrians' perceptions and emotions in the public realm, making mass an important consideration when designing and developing structures along streetscapes and pedestrian paths.

Large uninterrupted portions of structures create a large mass, which can feel imposing to pedestrians. Variations of wall planes, rooflines, and building form can break down structures to create visually engaging designs, while yet retaining the same amount of floor space.

Frontage

Frontage is the façade of a building that faces a public right-of-way. The frontage typically establishes the transition between public and private space, which directly shapes the public realm and influences the pedestrian experience.

5.4 Detached Single-Family Residential (R1)

Goal: Create a close, tight-knit neighborhood feel and character.

R1-1. Context

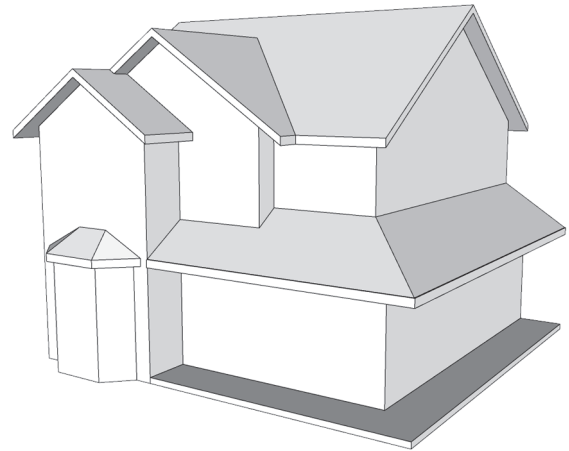
Detached single-family residential homes should contain similar styles and architectural features that tie the neighborhood together with a cohesive character. However, detached single-family homes should also contain variations in design elements and other architectural features to create a diverse and unique set of homes.

Additionally, where applicable, detached single-family residential homes should consider the surrounding natural environment, and protect and connect to important natural resources present in the area.



R1-2. Massing

Large masses, both vertically and horizontally should be avoided. One-story homes should have at least one vertical massing variation on the front façade. Two-story homes should have at least one vertical and one horizontal massing variation on the front façade. Front facing façade elevations are encouraged to have a variation of recessed and projecting elements to break up massing.



Example of horizontal and vertical massing variations in a two-story detached single-family residential home.

R1-3. Frontage

Detached single-family residential frontage should include a front porch facing the public right-of-way, along with a sidewalk or other pathway connecting the porch to the public sidewalk within the right-of-way.

R1-4. Placement

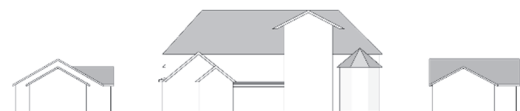
Detached single-family residential homes should be placed squarely on the property, with the front façade parallel with or tangent to the public right-of-way wherever possible. Additionally, significant natural features should be protected and incorporated where feasible.

R1-5. Front Yard Setbacks

Front yard setbacks should be between 20 and 25 feet from the right-of-way. Front porches may extend beyond the front yard setback, but should be at least 15 feet from the sidewalk.

R1-6. Scale

Single-family residential homes should be of relative size and scale to adjacent homes.



The middle house is not proportional in size and scale to the adjacent homes, and appears out of place.

R1-7. Entryways

Entryways should face the street and / or public sidewalk, and contain distinctive features, such as decorative doors, porticos, and porches. Front porches that stretch across the front façade are encouraged.



Although the middle house is still larger than the adjacent homes, it is proportional in size and scale.

R-1.8 Roofs

Roofs should feature multiple articulations, projections, and variations to add interest. Combinations of hipped and gable roofs are recommended.

R1-9. Architectural Details

Architectural details, such as decorative moldings, windows, shutters, chimneys, dormers, balconies, and landscaped elements that add interest to a facade are encouraged.

R1-10. Garages

Garages should not be oriented towards the street. Ideally, garages are located in the back of a property and accessed through an alley. Separated garages should be able to support an accessory dwelling unit.

R1-11. Driveways

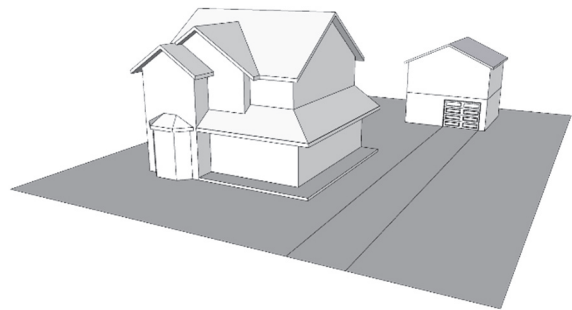
Driveways should not be a dominant element in a front yard. Driveways should be no wider than 12 feet, and are encouraged to be constructed of permeable materials. Additional parking, beyond a garage and driveway, should be met through on-street parking.

R1-12. Sidewalks

Sidewalks should be located along both sides of the street. Sidewalk widths within residential areas should be at least 5 feet wide.



A combination of architectural details on the front façade add to the overall aesthetic.



A detached garage provides an opportunity for an accessory dwelling unit above. An accessory dwelling unit may also be accessed from an alleyway, if applicable.

5.5 Attached Single-Family Residential (R2)

Goal: Blend with surrounding detached single-family character, while increasing density for a more urban atmosphere within walking distance to a variety of amenities.

R2-1. Context

Attached single-family residential homes should adopt similar architectural elements and styles as nearby detached single-family residential homes. Duplex homes should resemble the look and feel as surrounding detached single-family residential homes.

Additionally, where applicable, attached single-family residential homes should consider the surrounding natural environment, and protect and connect to important natural resources present in the area.



A duplex can resemble a single-family home, blending with surrounding single-family properties and consistent with the neighborhood character.



Townhomes and rowhomes can also incorporate architectural features and resemble single-family homes to maintain a consistent neighborhood character.

R2-2. Massing

Large masses, both vertically and horizontally should be avoided. Duplexes should include at least one vertical and one horizontal massing variation on the front façade. Townhomes and rowhomes should provide vertical massing variations between dwellings. All front facing façade elevations are encouraged to have a variation of recessed and projecting elements to break up massing.

R2-3. Frontage

Attached single-family residential frontage should include an elevated front porch or stoop facing the public right-of-way, along with a sidewalk connecting the porch or stoop to the public sidewalk within the right-of-way.

R2-4. Placement

Attached single-family residential homes facing the public right-of-way should be parallel with or tangent to the public right-of-way wherever possible. Additionally, significant natural features should be protected and incorporated where feasible.

R2-5. Front Yard Setbacks

Front yard setbacks should be between 10 and 15 feet from the right-of-way. Front porches may extend beyond the front yard setback, but should be at least 5 feet from the sidewalk.

R2-6. Scale

Attached single-family residential homes should be of relative size and scale to adjacent properties, as appropriate.

R2-7. Architectural Details

Architectural details, such as decorative moldings, windows, shutters, chimneys, dormers, balconies, and landscaped elements that add interest to a facade are encouraged.

R2-8. Roofs

Roofs should feature multiple articulations, projections, and variations to add interest. Combinations of hipped and gable roofs are recommended.

R2-9. Entryways

Entryways should face the street and / or public sidewalk, and contain distinctive features, such as decorative doors, porticos, and porches.

R2-10. Corner Emphasis

Corner dwellings should be emphasized architecturally through elements such as wrap-around porches, material variation, massing variation, and / or other methods.



Attached single-family residential homes can appear out of place when adjacent to smaller-scale detached single-family residential homes.



Attached single-family homes can be split to reduce the size and scale compared to adjacent properties.



Corner units on attached single-family residential developments can feature unique architectural treatments and articulation to emphasize the corner.

R2-11. Garages

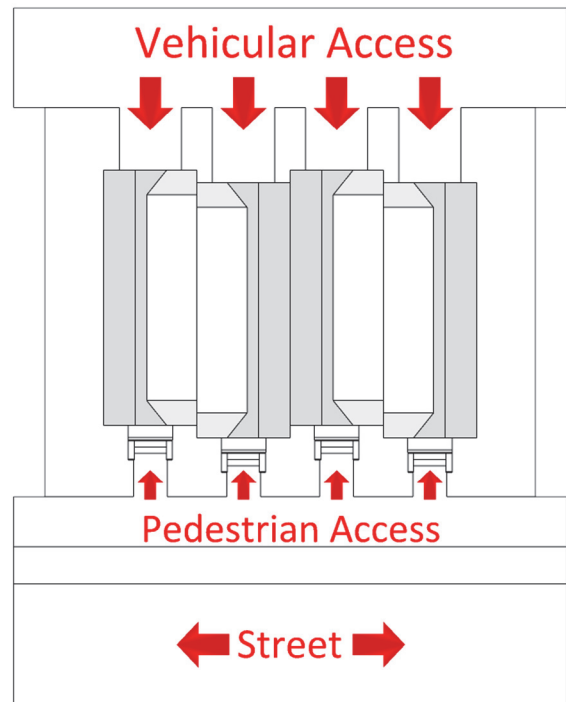
Garages that are attached to a duplex structure should be setback from the front façade so that it does not dominate the aesthetic of the structure. Ideally, garages for duplexes are detached from the main structure and can be accessed from an alleyway. Garages for townhouses and rowhouses should be located in the rear of the building, not visible from the street.

R2-12. Driveways

Driveways that extend from a public street rather than an alleyway should be no wider than 12 feet. Driveways are encouraged to be constructed of permeable materials. Additional parking, in excess of a garage and driveway, should be met through on-street parking.

R2-13. Sidewalks

Sidewalks should be located along both sides of the street. Sidewalk widths within residential areas should be at least 5 feet wide.



Attached single-family residential homes with driveways accessible from a rear alley.



5.6 Multifamily Residential (R3)

Goal: Take advantage of nearby assets and create high-density communities within walking distance to urban amenities, encouraging pedestrian activity.

R3-1. Context

Multifamily residential developments should adopt similar architectural elements and styles as nearby residential homes.

Additionally, where applicable, Multifamily residential developments should consider the surrounding natural environment, and protect and connect to important natural resources present in the area.

R3-2. Massing

Large masses, both vertically and horizontally should be avoided. All façades facing a public space, including streets and open spaces, are encouraged to have a variation of recessed and projecting elements to break up massing.

R3-3. Frontage

Multifamily residential frontage should include an elevated stoop or landscaped forecourt connected to the public right-of-way, along with a sidewalk or other pathway connecting the porch to the public sidewalk within the right-of-way.

R3-4. Placement

Multifamily residential buildings should be oriented to establish a street presence along a public right-of-way. A multifamily complex should be organized to provide open space integrated into the overall site as a community amenity.

R3-5. Front Yard Setbacks

Front yard setbacks should be between 10 and 15 feet from the right-of-way.



Multifamily residential structures can incorporate architectural elements from single-family residential homes to better integrate into a neighborhood. Additionally, creating asymmetrical buildings can help blend multifamily residential structures in single-family neighborhoods.

R3-6. Step-Backs

Any floor exceeding 30 feet in height should be stepped back at least 10 feet horizontally. For properties abutting single-family homes, the 10-foot step-back threshold is reduced to any floor exceeding 25 feet in height.

R3-7. Roofs

Roofs should feature multiple articulations, projections, and variations to add interest and to prevent long, uninterrupted eaves. Combinations of hipped and gable roofs are recommended. Roofs on multifamily residential structures may also provide habitable space, such as a rooftop terrace, and / or green roofs where appropriate.

R3-8. Entryways

At least one main common entryway should face the street and / or public sidewalk, and should be emphasized as a prominent, distinctive architectural feature through material selection, articulation, and / or architectural details.

R3-9. Architectural Details

Architectural details, such as decorative moldings, windows, shutters, chimneys, dormers, balconies, and landscaped elements that add interest to a facade are encouraged.

R3-10. Parking

Surface parking should not be located between the front façade and the public right-of-way. The majority of parking should be located in the rear of buildings, hidden from the public right-of-way. Parking may also be wrapped around the side and back edges of the structure to make the surface area appear smaller. To further break down the impact of surface parking, bioswales should be located along the edges or between the aisles of a parking lot.

Garages may also be incorporated with multifamily units but should be located in the rear of each unit or property, and not visible from the street.



Both step-backs and roofs provide opportunities for green roofs. Green roofs can provide multiple purposes and benefits, such as stormwater retention, amenities for residents, and greater insulation for the building.



This common entrance to the multifamily residential structure features a change in material that is unique, but complementary to the rest of the structure. Although not offset from the facade, the entrance contains a roof articulation to further emphasize the entrance to the building.



Photovoltaic panels in combination with carports provide the dual benefit of shading parked cars and producing energy that can be used to supplement power to the main building, or charge an electric vehicle.

To reduce solar heat gain from paved parking lots, surface parking should provide ample shade in the form of vegetation or solar panels. Parking areas are also encouraged to be constructed of porous pavement to absorb stormwater.

R3-11. Corner Emphasis

Corner dwellings should be emphasized architecturally through elements such as material variation, massing variation, and / or other methods.

R3-12. Common Areas

Multifamily residential buildings are encouraged to create outdoor common areas, such as forecourts, courtyards, rooftop terraces, or other shared open spaces.

R3-13. Sidewalks

Sidewalks should be located along both sides of the street. Sidewalk widths within multifamily residential areas should be at least six feet wide. Wider sidewalk widths should be provided if adjacent to commercial or employment uses.



Bioswales help capture and retain stormwater runoff from an impervious surface parking lot, reducing the environmental impact.



The corner on this multifamily structure is emphasized by multiple elements, including materials, height, window treatment, and roof variation. This emphasis on the corner adds articulation to a multifamily residential building and interest to the overall composition.



Common areas should be well defined by the building edge, and provide passive activities. Such common areas may be hardscaped, landscaped, or a mix of both.

5.7 Commercial (C)

Goal: Create engaging places for pedestrians to congregate and access their daily needs and services.

C-1. Context

The design of commercial buildings should relate to the context and character of the surrounding area by adopting similar architectural elements and styles of development, where appropriate. Consideration should also be given to other adjacent commercial developments and opportunities for shared amenities and shared access.



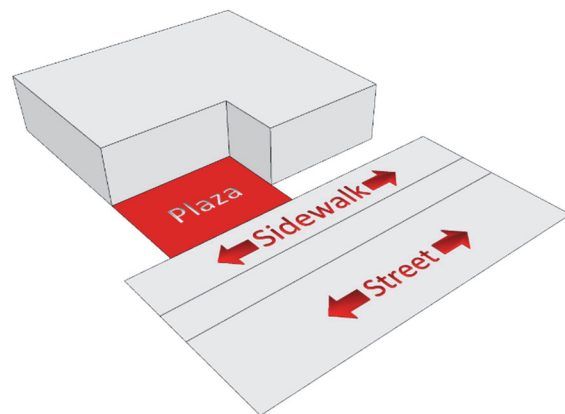
Commercial developments can adopt similar architectural features as surrounding residential properties to enhance the overall character of the neighborhood.

C-2. Massing

Large masses, both vertically and horizontally should be avoided. All façades facing a public space, including streets and open spaces, are encouraged to have a variation of recessed and projecting elements to break up massing and avoid box-like structures.

C-3. Frontage

Commercial buildings should maximize street frontage. A minimum of 50 percent of the structure's front façade should be along, or within 10 feet of the minimum front yard setback. Portions of the front façade beyond the public right-of-way should provide public or semipublic open space between the building and sidewalk. This public or semipublic open space may include outdoor seating, plaza space, or a courtyard.



Opening up the building form along a sidewalk can help break up a long continuous street wall and create a more enjoyable pedestrian experience. This space can also provide outdoor seating for cafes and restaurants.

C-4. Placement

Commercial buildings should be oriented to establish a street presence along a public right-of-way. Multiple commercial buildings located on one site should be clustered together to provide common areas, such as plazas, paseos, and / or courtyards that add to the overall sense of place.

C-5. Scale

Site configuration and design should be influenced by and proportional to the form and design of adjacent properties. New buildings should be a similar height in relation to adjacent properties

C-6. Front Yard Setbacks

Front yard setbacks should be within 10 feet of the public right-of-way.

C-7. Entryways

Entryways into commercial business should provide direct access from the public right-of-way. Buildings on corner lots should have a main entrance oriented towards the intersection.

C-8. Windows

Windows should be a dominant feature for any façade facing a public right-of-way, open space, or common area. Commercial buildings should feature fully transparent windows that cover at minimum 50 percent of any façade facing a public right-of-way, open space, or common area; however, additional coverage is preferred. The base of the windows should be at most 24 inches above the ground level, and extend vertically at least 8 feet above the ground level.

C-9. Corner Emphasis

Corner treatments of long strip commercial buildings and at intersections should be emphasized prominently and uniquely from the rest of the building through distinctive architectural elements, such as vertical massing and form, materials, landscaping and / or plaza space, roof features, as well as other methods that uniquely accentuate and emphasize the corner.

C-10. Architectural Details

Architectural details, such as decorative moldings and windows, materials, and landscaped elements that add interest to a facade are encouraged.

C-11. Roofs

Roofs should feature multiple articulations, projections, and variations to add interest and to prevent long, uninterrupted eaves. Additionally, rooftops are encouraged to provide usable habitable space, green roofs, and / or solar panels.



Bringing the commercial building up to the public right-of-way provides for more pedestrian activity and opportunities for outdoor seating creating a more engaging environment.

C-12. Common Areas

Commercial properties are encouraged to provide public and / or semipublic spaces for pedestrians, such as parks, plazas, courtyards, outdoor seating, pedestrian corridors and alleys, and other pedestrian amenities that help activate the public realm. These spaces and amenities should be along and connected to the public right-of-way, and should be well-defined by the building form.



Commercial centers can enclose a common public open space. This photo also represents the proper placement of off-street parking behind the commercial buildings.

C-13. Awnings and Canopies

Awnings, canopies, and other overhangs should be incorporated on any façade along a public sidewalk to protect pedestrians from weather. Awnings and canopies should be at least 9 feet above ground level, and should not extend beyond the public sidewalk.

C-14. Parking

Parking should be located behind commercial buildings, with access from a secondary street where possible. One aisle of parking is acceptable along either side of a commercial building. Parking should not be located between the front façade and the public right-of-way. Additionally, parking lots should be designed to connect to adjacent commercial properties within the same block, and not block or prevent access from adjoining parking lots where possible and appropriate.

To reduce solar heat gain from paved parking lots, surface parking should provide ample shade in the form of vegetation or solar panels. Parking areas are also encouraged to be constructed of porous pavement to absorb stormwater.



C-15. Service Areas

Service areas, such as trash removal, loading docks, storage areas, and utilities, should be hidden from public view, including from public rights-of-way, public parking lots, as well as adjacent properties. Where necessary, service areas may be screened. Screening methods should be consistent with the character and aesthetic of the main structure.

C-16. Sidewalks

Sidewalks should be located along both sides of the street. Sidewalk widths within commercial areas should be at least 12 feet wide. Wider sidewalk widths are encouraged to support pedestrian activities and amenities.



Screening service areas, such as dumpsters, should be discreet within the overall site. Incorporating similar materials and colors with the screening mechanism assists in reducing the visual impact of the service area. Additional landscaping can also enhance the overall aesthetic of the service area.

5.8 Mixed-Use (MU)

Goal: Create dense urban cores that, provide live-work-play environments, and generate robust pedestrian activity that is cohesive with the surrounding neighborhood.

MU-1. Context

Mixed-use developments should relate to the context and character of the surrounding area by adopting similar architectural elements and styles, where appropriate. Consideration should also be given to adjacent developments and opportunities for shared amenities and shared access.



Mixed-use developments can incorporate similar materials, roof lines, and other features that relate to the surrounding context and character to create a cohesive neighborhood.

MU-2. Massing

Large masses, both vertically and horizontally should be avoided. All façades facing a public space, including streets and open spaces, are encouraged to have a variation of recessed and projecting elements to break up massing and avoid box-like structures.

MU-3. Frontage

Mixed-use developments should maximize street frontage on the ground floor. A minimum of 50 percent of the structure's ground floor front façade should be along, or within 10 feet of the minimum front yard setback. Portions of the front façade beyond the public right-of-way should provide public or semipublic open space between the building and sidewalk. This public or semipublic open space may include outdoor seating, plaza space, or a courtyard.

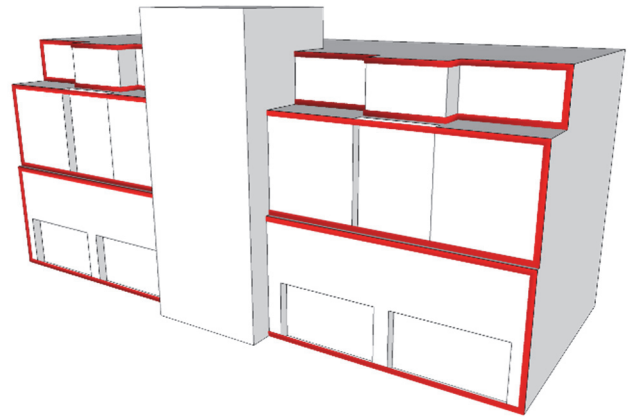
MU-4. Placement

Mixed-use developments should be oriented to establish a street presence along a public right-of-way. Multiple buildings located on one site should be clustered together to provide common areas, such as plazas, paseos, and / or courtyards that add to the overall sense of place. Another benefit of clustering buildings is the opportunity to provide shared access and shared parking.

MU-5. Base, Middle, Top Massing

Buildings with four or more floors, or heights greater than 50 feet should be divided into three massing components: a base, a middle, and a top.

- The “base” includes the first one or two floors of the building, and relates to the public right-of-way. This portion should feature prominent massing with heavy materials to make the building feel grounded. The base also contains the pedestrian amenities that foster an enjoyable pedestrian experience outlined in these Design Guidelines, such as awnings and canopies, large transparent windows, and distinctive entrances. It may be acceptable for some design elements in the base portion to extend into the “middle” and “top” sections of the building to emphasize important features, such as corners and entryways.
- The “middle” includes the space between the “base” and “top” and is the main identifiable body of the building. This portion typically features a regular design cadence, but may be interrupted to emphasize important design features.
- The “top” is the topmost portion of the building. This portion may be an articulated roofline, a detailed cornice, or a floor of habitable space. Any habitable space should be stepped back from the middle section to appear less bulky.



Breaking down the vertical massing by a base, middle, and top can create a more human scale urban form that is more inviting to pedestrians.

MU-6. Front Yard Setbacks

Front yard setbacks should be within 10 feet of the public right-of-way. Architectural elements, such as awnings, canopies, balconies, or roof overhangs may extend beyond the front property line into the public right-of-way, but not beyond the width of the public sidewalk.

MU-7. Step-Backs

Any floor exceeding 30 feet in height should be stepped back at least 10 feet horizontally. For properties abutting single-family homes, the 10-foot step-back threshold is reduced to any floor exceeding 25 feet in height.

MU-8. Common Areas

Mixed-use developments should provide public and / or semipublic spaces for pedestrians and tenants, such as parks, plazas, courtyards, outdoor seating, pedestrian corridors and alleys, and other pedestrian amenities that help activate the public realm. These spaces and amenities should be along and connected to the public right-of-way, and should be well-defined by the building form.

MU-9. Architectural Details

Architectural details, such as decorative moldings and windows, materials, balconies, and landscaped elements that add interest to a facade are encouraged.

MU-10. Corner Emphasis

Corner treatments, particularly at intersections should be emphasized prominently and uniquely from the rest of the building through distinctive architectural elements, such as vertical massing and form, materials, landscaping and / or plaza space, roof features, as well as other methods that uniquely accentuate and emphasize the corner.

MU-11. Entryways

Main entryways should provide direct access from the public right-of-way, open space, or common area and emphasized as a prominent architectural feature through material selection, articulation, and / or architectural details. Buildings on corner lots should have a main entrance oriented towards the intersection.



Large-scale mixed-use developments can enclose a common public space that creates a more open feel and adds to the pedestrian experience.



The corners of mixed-use development can feature some iconic element that makes each building unique, such as a clock tower.

MU-12. Windows

Windows should be a dominant feature for any façade facing a public right-of-way, open space, or common area. The ground floor should feature fully transparent windows that cover at minimum 50 percent of any façade facing a public right-of-way, open space, or common area; however, additional coverage is preferred. Additionally, at the ground floor, the base of the windows should be at most 24 inches above the ground level, and extend vertically at least 8 feet above the ground level.

MU-13. Roofs

Roofs should feature multiple articulations, projections, and variations to add interest and to prevent long, uninterrupted eaves. Additionally, rooftops are encouraged to provide usable habitable space, green roofs, and / or solar panels.

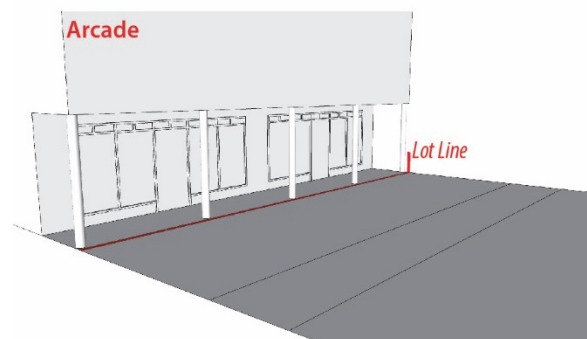
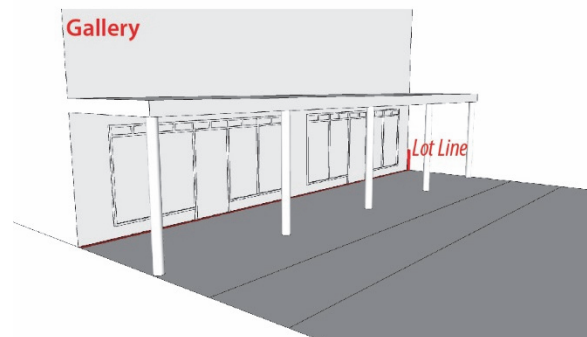
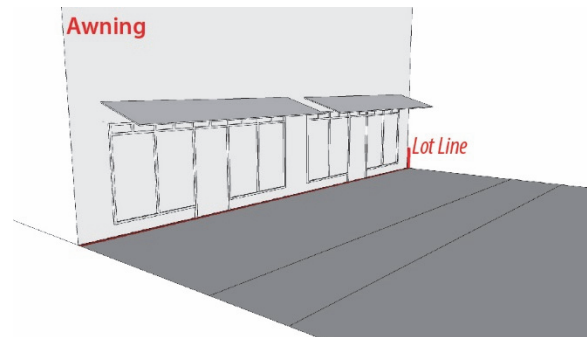
MU-14. Awnings and Canopies

Awnings, canopies, and other overhangs should be incorporated on any ground floor façade along a public sidewalk to protect pedestrians from weather. Awnings and canopies should be at least 9 feet above ground level, and should not extend beyond the public sidewalk.

Other encouraged methods of creating shade and protecting pedestrians from the elements include arcades and galleries. Although no habitable space is permitted within the public right-of-way, shade structures may extend over the sidewalk.

MU-15. Service Areas

Service areas, such as trash removal, loading docks, storage areas, and utilities, should be hidden from public view, including from public rights-of-way, public parking lots, as well as adjacent properties. Where necessary, service areas may be screened. Screening methods should be consistent with the character and aesthetic of the main structure.



Awnings and other types of canopies along the building frontage can enhance the public realm by providing shade and weather protection for pedestrians.

MU-16. Parking

Parking should not be located between the front façade and the public right-of-way. One aisle of parking is acceptable along either side of a building. Parking should be located behind structures, with access from a secondary street where possible. Additionally, parking lots should be designed to be connected to adjacent commercial properties within the same block, and not block or prevent access from adjoining parking lots where possible and appropriate.

To support higher parking demands, structured parking is encouraged to be incorporated with a mixed-use development. Structured parking should be behind habitable uses to screen the parking structure from the public right-of-way, and maintain the highest and best use of the street frontage. Additional habitable uses may be stacked above structured parking. Structured parking that is exposed to the public right-of-way should maintain a consistent character as the main structure by using similar high-quality materials, details, and articulations. Other methods of screening structured parking should be used, such as vegetation or public art installations.

MU-17. Sidewalks

Sidewalks should be located along both sides of the street. Sidewalk widths within mixed-use areas should be at least 12 feet wide. Wider sidewalk widths are encouraged to support pedestrian activities and amenities.



Parking, including structured parking, can be wrapped by the building to hide it from the public realm.



Where structured parking garages are exposed to the public realm, the facades should be artistically decorated or screened to enhance the overall aesthetic.

5.9 Employment (E)

Goal: Create attractive, comfortable, and desirable work locations that contribute to surrounding built and natural environments.

E-1. Context

Employment uses should consider the context and character of the surrounding area to help influence the design of employment facilities, particularly the natural environment. Where possible, employment uses should protect and connect to important natural resources present on site to add to the overall aesthetic of the facility and / or complex.

E-2. Massing

Large masses, both vertically and horizontally should be avoided. All façades facing a public space, including streets and open spaces, are encouraged to have a variation of recessed and projecting elements to break up massing and avoid box-like structures. However, for employment buildings, some design elements may include large distinctive masses to portray a prominent feature or that add interest to the overall building design.

E-3. Frontage

The building frontage facing a public right-of-way should be prominent and interesting, featuring a variety of materials, masses, and articulations.

E-4. Placement

Employment buildings should take advantage of and be integrated with the natural landscape. Wherever possible and appropriate, natural features and resources should help guide the placement, orientation, and form of the structure.

E-5. Scale

Employment buildings are often much larger in scale than other surrounding structures. To mitigate differences in scale, employment buildings should be oriented away from residential properties and buffered through conserved natural open space to eliminate or significantly reduce the visible impact of a large structure from a residential home.

E-6. Front Yard Setbacks

Front yard setbacks should be between 40 and 100 feet from the public right-of-way. The area within the Front Yard Setback should not consist of parking, but rather should engage the public realm through a plaza design, landscaped open space, or natural preserved open space.



Integrating large format employment facilities with the natural landscape helps create attractive work locations for employees, and reduces the facility's impact on surrounding properties and the natural environment.

E-7. Entryways

The main entryway into an employment building should be visible from the public right-of-way and be emphasized as a prominent architectural feature through massing, change in material, articulation, and / or other architectural details. Another consideration for main entryways is weather protection, such as canopies, building overhangs, and covered walkways that are consistent with the building's style and character.

E-8. Windows

Clear, transparent windows are encouraged to consume a large portion of the front façade to portray an inviting building design.

E-9. Roofs

Due to the scale of most employment buildings, flat roofs are the most appropriate. Pitched roofs that add to the aesthetic and character of the building may be acceptable in select areas to add detail and prominence. Flat roofs should provide usable and / or serviceable space, including storing building utility equipment, photovoltaic panels, rooftop terraces, and vegetated roof systems. A combination of these rooftop elements is encouraged.

E-10. Parking

All parking should be located beyond the front yard setback, and should be largely hidden or screened from the public right-of-way with vegetation or behind a building element. Fences enclosing parking areas may be permitted for security purposes, but are not considered a suitable screening method.

To reduce solar heat gain from paved parking lots, surface parking should provide ample shade in the form of vegetation or solar panels. Parking areas are also encouraged to be constructed of porous pavement to absorb stormwater.

E-11. Service Areas

Service areas, such as trash removal, loading docks, storage areas, and utilities, should be hidden from public view, including from public rights-of-way, public parking lots, as well as adjacent properties. Where necessary, service areas may be screened. Screening methods should be consistent with the character and aesthetic of the main structure.

E-12. Sidewalks

Sidewalks should be located along both sides of the street. Sidewalk widths within Employment areas should be at least 5 feet wide. Wider sidewalk widths are encouraged to support pedestrian activity.



Entryways should be emphasized as a prominent feature when facing a public right-of-way, and appear inviting for both employees and visitors.



6. Implementation Strategies

6.1 Introduction

The Implementation Plan identifies the actions needed to implement the improvements and changes in the Study Planning Areas and is intended to assist the city of Aberdeen decision makers and partners with prioritizing, scheduling and executing courses of action to accomplish implementation. Because implementation will occur in stages over time with different partners and under different administrations, having a plan that outlines the necessary courses of action is critical to the long-term success and realization of the I-95 Land Use Study.

6.2 Implementation Plan

The Implementation Plan in Table 6-1 provides a summary of recommended actions organized by type of action, i.e. land use, transportation, parks and recreation, Infrastructure, and notes the timeframe for completion – short-term, mid-term or long-term. The recommendations are developed from the improvements identified within each Alternative Plan described in Chapter 4. Where the recommendations are area specific, they are noted in the description.

The recommended completion timeframes are intended to provide a general guide to inform funding decisions which provide for the orderly and efficient completion of each recommended action. The City of Aberdeen should develop and implement an annual procedure for compliance reporting, review and modification as necessary of the Implementation Plan. Modifications are intended during this annual review process to ensure the Study is maintained as a guide to planned future improvements.

The Implementation Plan establishes the following three Completion Timeframes:

- **Short-Range Improvements.** Recommendations for improvement / projects in the Short-Range planning horizon cover the years FY 2020-2025, the first five-year period following completion of the I-95 Land Use Study.
- **Medium-Range Improvements.** Recommendations for improvements / projects in the Medium-Range planning horizon cover the years FY 2025-2030, the second five-year period following completion of the I-95 Land Use Study.
- **Long-Range Improvements.** Recommendations for improvements / projects in the Long-Range planning horizon cover the years FY 2030-2035, the third five-year period following completion of the I-95 Land Use Study.

A column for Rough Order Magnitude (ROM) cost is provided to the right of table. The costs may either be represented as staff time or in some cases unit cost as is the case with more complex actions. These actions such as future water and sewer expansions are dependent on a number of factors that are beyond the scope of this Study such as localized topography and soil conditions, materials and labor costs escalated for the construction timeframe, exact alignment and timing of other factors such as amending the Development Envelope, the PFA and Growth Tier. These should all be taken into consideration when planning for future infrastructure upgrades.

Table 6-1 I-95 Area Land Use Study Implementation Plan

		Completion Timeframe			
Action #	Improvement / Project Description	Short-Range	Medium-Range	Long-Range	Rough Order Magnitude Cost
Land Use					
LU-1	Conduct a public education campaign with residents in the Study Planning Areas to socialize the I-95 Land Use Study, vision for future development and design standards within the Study Planning Areas.	■			Staff Time
LU-2	Coordinate with Harford County to amend the Development Envelopment to include all land within the Study Planning Areas. Use the I-95 Area Land Use Study as a plan of action that supports and justifies the amendment.	■	■	■	Staff Time / Administration Time
LU-3	Amend the Municipal Priority Funding Area (PFA) for Study Planning Areas not currently within the PFA as land is added to the City.	■	■	■	Staff Time / Administration Time
LU-4	Amend the Tier IV designation of the Study Planning Area properties as land is added to the City. Because this process is anticipated to occur over time, the City should develop a plan to reclassify the Tier IV property currently designated by Harford County – where public sewer is not provided and planned for and the density is limited to one (1) dwelling unit per 20 acres per the State Sustainable Growth and Agricultural Act of 2012, to Tier II – intended for areas where sewer service is planned. This action should occur after or in conjunction with expansion of the Development Envelope and the PFA in Actions LU-2 and LU-3. The City should coordinate the amendments with the Maryland Department of Planning and adopt the amended growth tiers in updates to the City's Comprehensive Plan, as required by State law.	■	■	■	Staff Time / Administration Time
LU-5	Implement Land Use Study Design Guidelines to inform the type and quality of development in the Study Planning Areas.	■			Staff Time / Administration Time
LU-6	Comprehensive Plan. Update the Comprehensive Plan designation for the Study Planning Areas as land is added to the City. A Future Land Use Map category of Integrated Business District throughout the Study Planning Areas supports the vision for future development and allows maximum development flexibility when adhering to the land uses and Design Guidelines in the Study.	■	■	■	Staff Time / Administration Time

Aberdeen I-95 Area Land Use Study

		Completion Timeframe			
Action #	Improvement / Project Description	Short-Range	Medium-Range	Long-Range	Rough Order Magnitude Cost
Land Use (continued)					
LU-7	Zoning. Planning Area 10 – Gilbert. Designate this Planning Area within the Integrated Business District. Though the majority of this area is single-family detached residential of varying lot sizes in both Alternative 1 and 2, the Integrated Business District designation would allow for the single-family attached and multifamily residential development along the western portion of Gilbert Road in this Planning Area.	■	■	■	Staff Time / Administration Time
LU-6	Zoning. Planning Area 11 – Long / HEAT. Designate this Planning Area within the Integrated Business District to promote a mix of uses. Develop a Plan to designate the area along Technology Drive as an Innovation District zoning overlay. Include in the Plan the types of technology industries to create synergies with the needs of Aberdeen Proving Ground.	■	■	■	Staff Time / Administration Time / Innovation District Plan (\$10-15,000 if out of house; consider partnering with university for little or no cost)
Economic Development					
ED-1	Conduct an education campaign with businesses, construction, and developer communities to socialize the I-95 Land Use Study.	■			Staff Time
ED-2	Develop branding specific to the Study Planning Areas that can be incorporated into a new marketing campaign for the area and identifies the area as a destination.	■	■		Staff Time / Marketing Collateral
ED-3	Coordinate with Harford County to amend the Enterprise Zone to include the MD 22 corridor north of Long Drive and areas east of MD 22 designated commercial and mixed use in the I-95 Area Land Use Study Planning Area outside the City.	■			Staff Time / Administration Time
ED-4	Consult with Battelle on plans for property along Technology Drive and to understand their mission, strengths and long-term planning needs that can lead to synergies for marketing development along Technology Drive.	■	■		Staff Time



		Completion Timeframe			
#	Improvement / Project Description	Short-Range	Medium-Range	Long-Range	Rough Order Magnitude Cost
Economic Development (continued)					
ED-5	Develop a marketing plan to seek and encourage desired commercial establishments along the MD 22 corridor and in Mixed Use areas.	■	■	■	Staff Time / Marketing Plan (\$10,000 if out of house; consider partnering with university for little or no cost)
ED-6	Actively market a mix of residential types in the Study Planning Areas.		■		Staff Time
ED-7	Engage with Battelle on the future plans for disposition of property along Technology Drive since they are the owners of vacant parcels.		■		Staff Time
ED-8	Continue to participate in the Army Alliance to understand the emerging and future needs of Aberdeen Proving Ground and how they can be leveraged for continued development of Technology Drive.	■	■	■	Staff Time
ED-9	Conduct a market study to determine the mix of commercial and mixed uses to tailor economic development efforts.	■	■	■	Staff Time / Market Study (consider partnering with university for little to no cost)
Transportation / Infrastructure					
T/I-1	Acquire land, as necessary, to provide off-street bicycle and pedestrian paths from willing land sellers to achieve Land Use Study circulation objectives.		■	■	Acquisition Cost is variable and should only be used to acquire land where development does not occur by market forces alone. Estimated cost of unpaved trail per linear mile: \$121,000.

Aberdeen I-95 Area Land Use Study

		Completion Timeframe			
#	Improvement / Project Description	Short-Range	Medium-Range	Long-Range	Rough Order Magnitude Cost
Transportation / Infrastructure (continued)					
T/I-2	Require greenspace and open space set-asides for developments within the Study Planning Areas to achieve Land Use Study circulation and green space objectives.		■	■	Staff Time / Administration Time
T-I-3	Construct two six-foot wide pedestrian boardwalk crossings across Carsins Run. Crossing 1: 880 feet; estimated cost: \$370,000 Crossing 2: 300 feet; estimated cost: \$125,000 It should be noted that the cost quoted above is ESTIMATED based on current cost factors and does not include escalation to out years because the date of construction is unknown.		■		Estimated cost of six-foot wide boardwalk: \$2.2 Million per mile
T/I-4	Coordinate with the Maryland Department of Transportation to add the widening of MD 22 to four lanes from the Baker Cemetery north to Aldino Stepney Road to its Consolidated Transportation Program to support future traffic in the Study Planning Areas.		■	■	Staff Time
T/I-5	Coordinate with the Maryland Department of Transportation to add a signalized intersection at Aldino Stepney Road and MD 22 to its Consolidated Transportation Program.		■	■	Staff Time
T/I-6	Coordinate with the Maryland Department of Transportation to add the service roads and angled parking along MD 22 north of Long Drive to accomplish the Land Use Plan goals for mixed use development.		■	■	Staff Time
T/I-7	Seek state funding to support roadway improvements for the widening of Aldino Stepney Road and Gilbert Road. This should only occur after expansion of the Development Envelope and be coordinated with Harford County per Action #T/I-8 below.		■	■	Staff Time



		Completion Timeframe			
#	Improvement / Project Description	Short-Range	Medium-Range	Long-Range	Rough Order Magnitude Cost
Transportation / Infrastructure (continued)					
T/I-8	<p>Coordinate with Harford County on funding, design and construction for the phased widening of Aldino Stepney Road and Gilbert Road. The phases are goals (no timeframe) and should be constructed as new development is planned. Proposed phasing of roadway improvements and estimated cost:</p> <p>Phase I Improvements:</p> <ul style="list-style-type: none"> ■ Aldino Stepney Road west of Carsins Run - widening to 4-lanes (2,800 linear feet; estimated cost: \$1.25 Million) ■ Long Drive / Gilbert Road intersection realignment (estimated cost \$250,000) <p>Phase II Improvements:</p> <ul style="list-style-type: none"> ■ Gilbert Road east of Carsins Run to Maxa Road - widening to 4-lanes (3,760 linear feet; estimated cost \$1.78 Million) <p>Phase III Improvements:</p> <ul style="list-style-type: none"> ■ Aldino Stepney Road east of Carsins Run to Gilbert Road - widening to 4-lanes (5,400 linear feet; estimated cost \$3.06 Million) <p>Phase IV Improvements:</p> <ul style="list-style-type: none"> ■ Gilbert Road between Maxa Road and Aldino Stepney Road - widening to 4-lanes (7,800 linear feet; estimated cost \$3.69 Million) <p>It should be noted that the cost quoted above is ESTIMATED based on current cost factors and does not include any land acquisition costs.</p> <p>In some areas there is insufficient Right-Of-Way (ROW) to accommodate additional widening without the acquisition of land or the use of easements and in some cases the existing roadway extends onto private property. The roadways recommended for widening are identified in the City of Aberdeen Comprehensive Plan Transportation Element as collector roads that provide access and service to neighborhoods and residential, commercial and industrial land uses. With the greater intensity of use within the Study Planning Areas, additional capacity will be required for the safe travel of traffic along these roadways.</p>				<p>Estimates cost per linear mile for widening 2 lane to 4 lane undivided road (add one lane in each direction and five-foot shoulder: \$2.5 Million)</p>
			■	■	

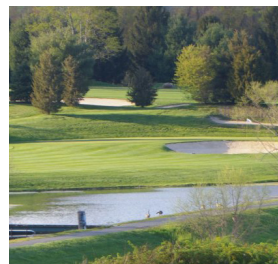
Aberdeen I-95 Area Land Use Study

		Completion Timeframe			
#	Improvement / Project Description	Short-Range	Medium-Range	Long-Range	Rough Order Magnitude Cost
Transportation / Infrastructure (continued)					
T/I-8 cont'd	<p>Currently, the Aldino-Stepney Road ROW ranges from 33 to 60 feet wide, the Gilbert Road east-west alignment ROW ranges from 30 to 60 feet wide and the Gilbert Road north-south alignment ROW ranges from 38 to 49 feet wide. Per the American Association of State Highway and Transportation Officials (AASHTO), the minimum standard for a rural collector road is a 10-foot wide travel lane and average 5-foot wide shoulder. In the case of a four lane collector, a minimum 50 feet of ROW would be required.</p> <p>Where road widening is planned, consideration should be given to acquisition from willing sellers or easements to accommodate the new roadway width.</p>				
T/I-9	<p>Coordinate and advocate with private utility providers for the provision of electrical service, natural gas and broadband throughout the Study Planning Area as new developments come online.</p>	■	■	■	Staff Time
T/I-10	<p>Plan for extension of city water and sewer to support new developments in Study Planning Areas as they come online.</p> <p>The City is currently planning improvements for city water in the Study Planning Areas including waterline distribution improvements, new tank and booster pump at an estimate cost of approximately \$6 Million. These facilities will assist the city with providing additional capacity to the area west of I-95. The priority for additional water service should be within the existing Integrated Business District. Once the Development Envelope has been amended, the city should consider additional extensions throughout the Study Planning Areas, particularly as the PFA and Growth Tier are also amended. While the City has sufficient capacity to accommodate additional growth, by 2035, based on projections in the County's HarfordNEXT plan the City's daily demand (3.12 mgd) will exceed the total safe yield of 2.63 mgd. Therefore, the city will need additional water supply through such means as an additional water treatment plant or through purchase from other sources.</p> <p>The City has sufficient capacity to accommodate wastewater demands from future growth but lacks long-term hydraulic capacity. Pump stations or pressurized force mains may be required to convey</p>		■	■	<p>The cost for city water mains is variable due to several factors and can range from \$200 to \$400 per linear foot.</p> <p>The cost for new sewer mains is variable due to several factors and can range from \$200 to \$400 per linear foot.</p>



		Completion Timeframe			
#	Improvement / Project Description	Short-Range	Medium-Range	Long-Range	Rough Order Magnitude Cost
Transportation / Infrastructure (continued)					
T/I-10 cont'd	additional discharges to ensure flow rates. The priority for wastewater service should be within the existing Integrated Business District. Once the Development Envelope has been amended, the city should consider additional extensions throughout the Study Planning Areas, particularly as the PFA and Growth Tier are also amended.				
T/I-11	Extend city water and sewer through the Adams Heights Subdivision if annexed.		■	■	See the average cost range for sewer under Action T/I-10.





Planning and Community Development Department

CITY OF ABERDEEN

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