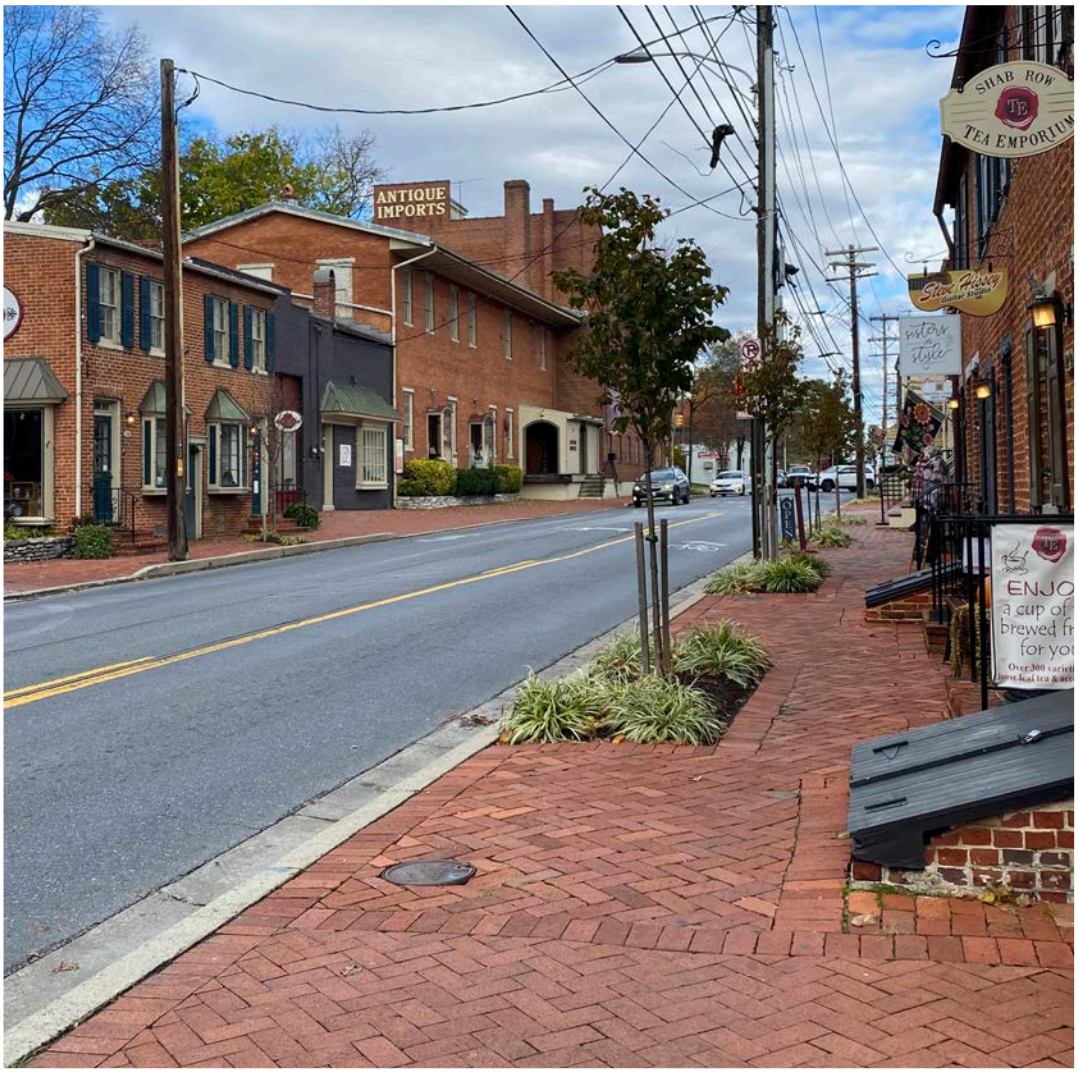
EAST STREET REDESIGN

CITY OF FREDERICK, MD

FINAL REPORT

JUNE 2022



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THE CITY OF FREDERICK FOUNDED 1745

METROPOLITAN WASHINGTON Council of Governments

National Capital Region **Transportation Planning Board**


FREDERICK
GREYHOUND

Acknowledgments

The East Street Redesign project was led by the City of Frederick, MD Planning Department with technical support from the consultant team. This project is funded by the MWCOG, National Capital Region Transportation Planning Board's Transportation Land Use Connections (TLC) Program.

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Table of Contents

List of Figures

List of Figures (Cont.)

List of Figures (Cont.)

List of Tables


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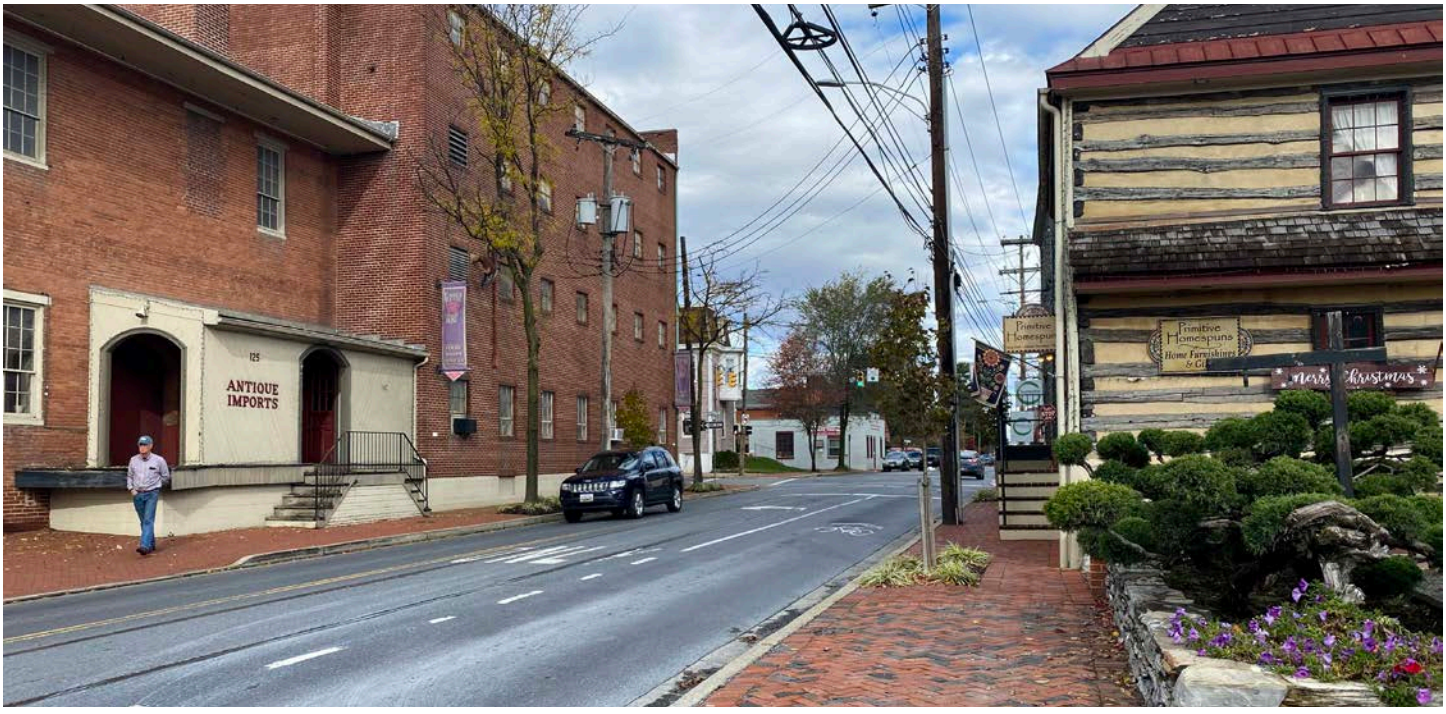
1. Introduction

Project Background

The City of Frederick (The City) initiated this project to study and develop a comprehensive long-term vision for the East Street corridor. This study re-imagined the 2.25-miles long East Street study corridor from North Market Street to Monocacy Boulevard/New Design Road in Frederick, MD. This corridor forms the eastern edge of downtown and has many important destinations, such as MARC train station, Carroll Creek Park, and trail crossings.

This project analyzed existing conditions, engaged stakeholders, and developed recommendations to make East Street more comfortable for pedestrians, bicyclists, and transit users while enhancing the historic character of the corridor through innovative place-making and urban design solutions. The recommendations also provides design guidance that can be advanced as part of the form-based code and small-area plan initiative for the East Frederick area.

This planning study is the outcome of technical assistance provided by the Metropolitan Washington Council of Governments (MWCOG) Transportation-Land Use Connections (TLC) program. Kittelson & Associates Inc. (Kittelson), in collaboration with Rhodeside Harwell Inc. (RHI) and Seth Harry & Associates (Seth Harry), are providing technical consultant support to The City of



View of the historic downtown area segment of East Street looking north towards the 2nd Street intersection.

Frederick for this project. The project team includes members of the consultant team and staff from the City. This report documents the overall planning process, including the existing conditions analysis, stakeholder engagement activities, and recommendations for the study corridor.

In the last decade, the City of Frederick has continued to grow and develop as an important city in Frederick County, Washington DC region, and Maryland state – with an 18% increase in population (78,171 as of 2020 Decennial Census) and many thriving businesses. As with other urban areas throughout the region, the city is faced with challenges that come with significant growth, including the need to address changing demographics (aging population, rise of Millennial generation), increased demand for mobility options, and the desire to create places where people can live, work, and recreate. Amidst this evolving context, East Street is an integral corridor in the fabric of the city, providing north-south connectivity between I-70 and downtown Frederick and bridging the historic downtown grid with the up-and-coming East Frederick neighborhood. Careful attention and planning are required to determine the best future for one of Frederick's most important corridors. Figure 1.1 shows the 2.25-mile study corridor spanning Monocacy Boulevard to Market Street. The study corridor traverses through diverse land uses and character areas. Roadway characteristics such as Right-of-Way (ROW) widths, travel lanes, sidewalks, bicycle facilities, and the overall public realm vary considerably in different segments of the study corridor. The development pattern consisting of a mix of uses such as retail, industrial, and residential, along with extensions of East Street to the south, has resulted in an inconsistent corridor experience and the overall street character.

View of East Street looking north towards the transit center and Carroll Creek crossing.

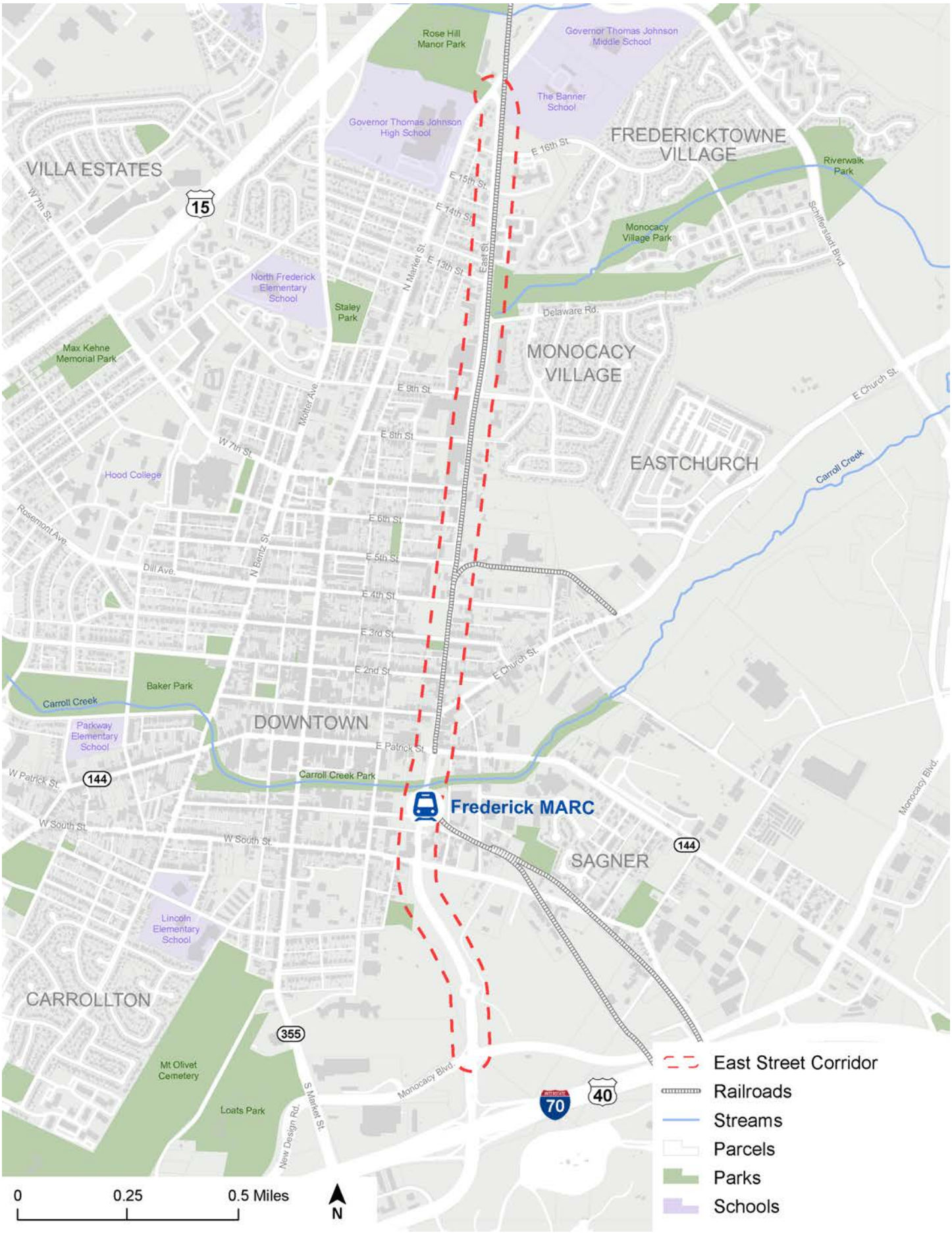


Figure 1.1: Study Corridor

Historic Context of East Street

East Street has a storied past with its beginnings as a significant Nineteenth-Century corridor that served as a defining edge for Frederick's growing east side. Early development along the East Street corridor was supported by the ease of access to passenger and freight rail as well as the expansion of the Downtown core toward the east. Below is an overview of historical events and places that supported the East Street corridor's evolution. Figures 1.2 to 1.4 display the growth of the East Street corridor through historical maps.

Development History

- Daniel Dulany laid out Frederick Town in 1745
- Early development centers around Market Street, with East Street being the eastern edge of the town.
- By 1887, mostly dwelling units and some light industrial uses extend on East Street between Patrick Street and 3rd Street.
- The city expanded northwards and southwards with warehouses and factories occupying the land south of Carroll Creek to take advantage of the railway by 1892.
- The northern developments reached East Street up to 8th Street by 1897 in the form of sparse dwelling units.
- The corridor continued to be infilled with more dwelling units north of Carroll Creek and factories and warehouses taking up frontage along the railway.

Railway History

- Frederick Branch of the Baltimore & Ohio Railroad (B&O) opened in 1831. A freight station was built in 1832 at South Carroll Street and demolished in 1911. A passenger depot was built at East All Saints Street and Market Street in 1854. The branch was initially used to send flour to Baltimore, with shipments diversifying to include milk, bricks, limestone, and manufactured goods in later years.
- Hagerstown and Middletown Railway service between Frederick and Braddock Heights opened in 1896. Service in Frederick was expanded between 1909-1911, and through mergers, Hagerstown and Frederick Railway (H&F) was formed in 1913. Frederick terminal station was built in 1910 and is located at 200 E Patrick Street. Passenger service was terminated in 1940, with freight following in 1961.
- Frederick and Pennsylvania Line Railroad opened in 1872. Pennsylvania Railroad (PRR) leased the line. Frederick Station was located at Church Street and East Street. Milepost 0 was located at the current day MARC train station.
- MARC Brunswick line's Frederick branch opened its Frederick Station in 2001 at 100 South East Street on the former B&O Frederick Branch.
- Remnants of Trolley cars along East Street (including tracks and overhead guides) exist along the corridor today.

View of East Street, just north of Church Street in 1936
Source: The Library of Congress

View of East Street in 1940s
Source: The Frederick & Pennsylvania Line Railroad Museum

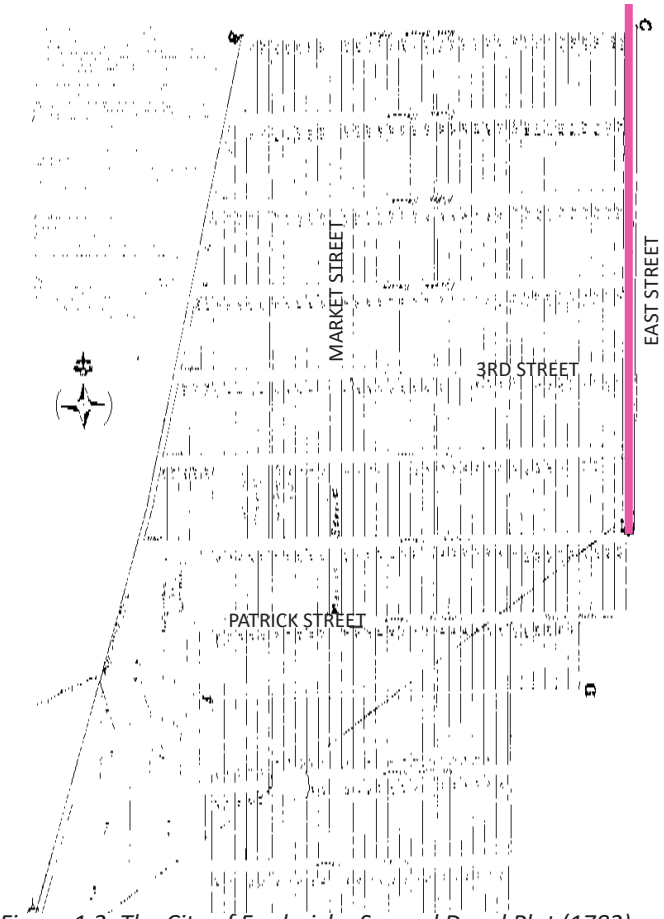


Figure 1.2: The City of Frederick - Samuel Duval Plat (1782)
Source: The Frederick News Post

Figure 1.4: The City of Frederick - Sanborn Map (1897)
Source: The Library of Congress

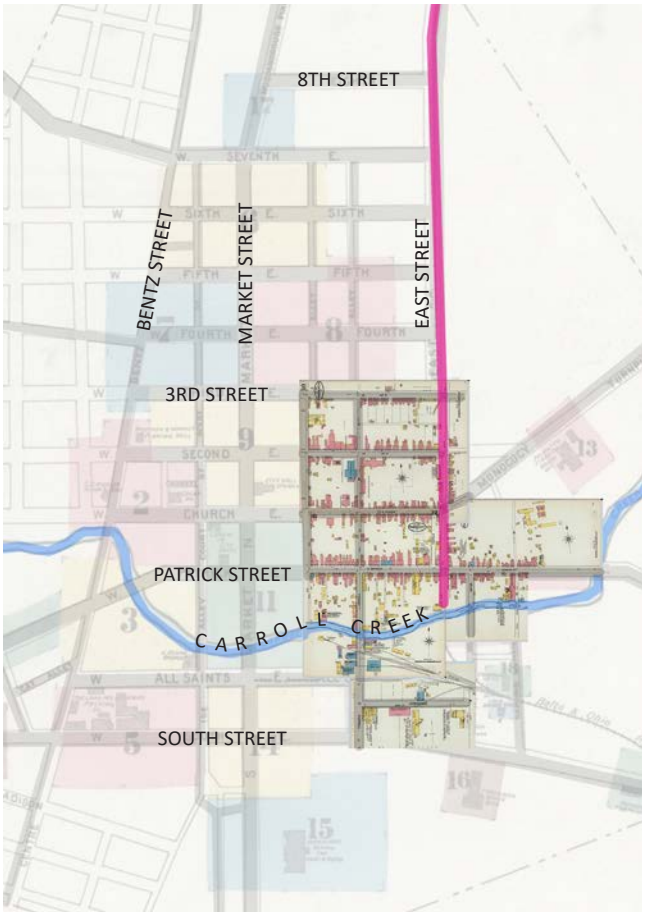


Figure 1.3: The City of Frederick - Sanborn Map (1892)
Source: The Library of Congress

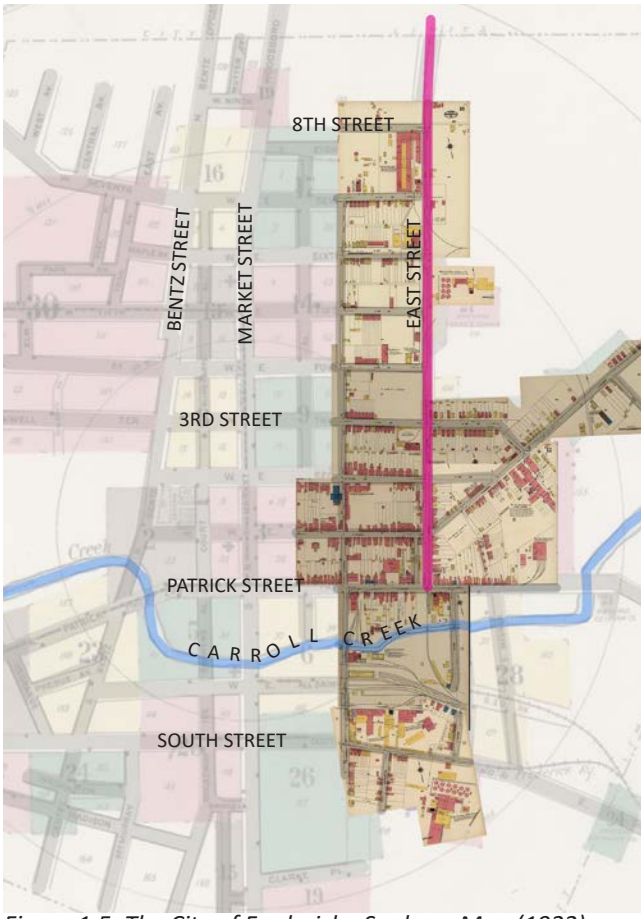


Figure 1.5: The City of Frederick - Sanborn Map (1922)
Source: The Library of Congress

Planning Process

The project team developed a streamlined planning process to guide the project through various tasks. The project began with a kick-off meeting held on October 19, 2021. As part of the existing conditions analysis, the project team visited the study corridor for a field review on November 12, 2021. The overall planning process is shown in Figure 1.6.

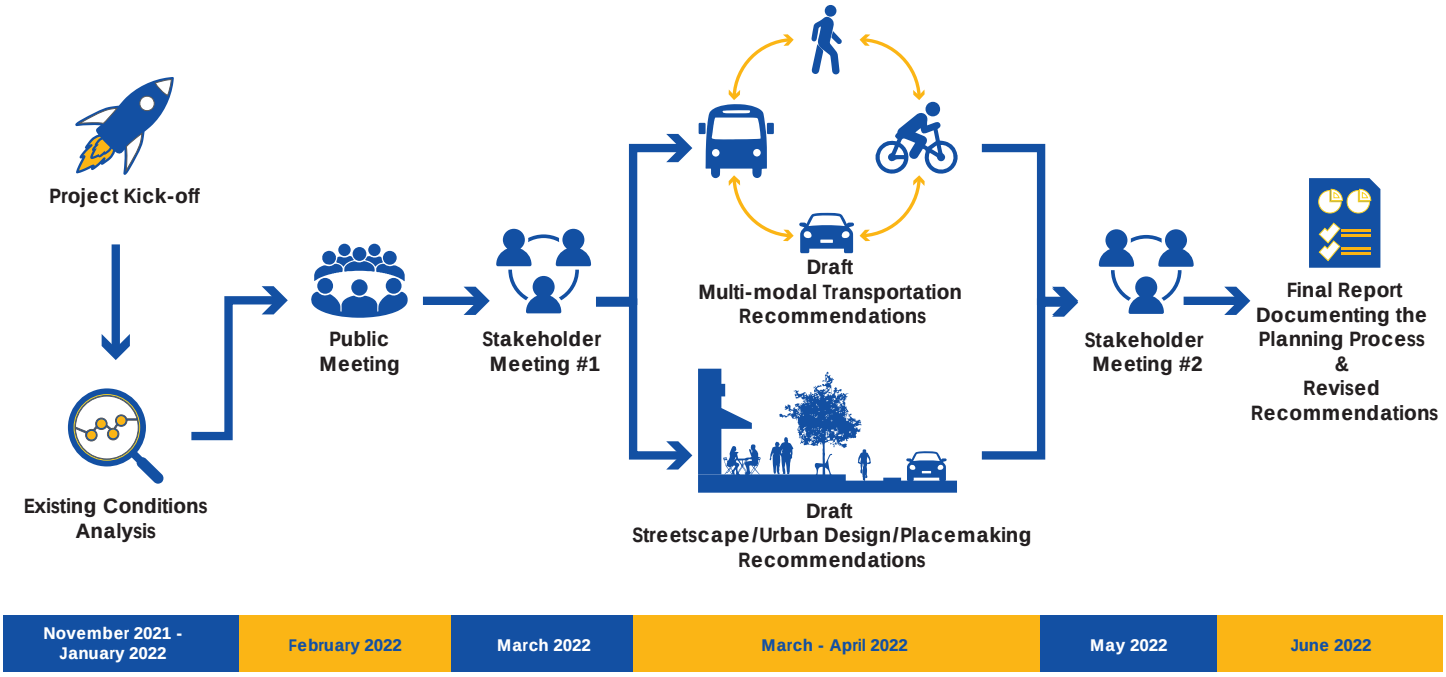


Figure 1.6: Planning Process

Project Goals

The following goals were identified for this project:

- **Comprehensively re-imagine East Street as an urban, mixed-use, complete multi-modal corridor from North Market to Monocacy Boulevard/New Design Road.**
- **Develop a coherent context-sensitive urban design framework for the study corridor while respecting the diverse Character areas.**
- **Redesign East Street to enhance pedestrian, bicycle, and transit facilities.**
- **Support a form-based code and small area plan initiative for the East Frederick area.**

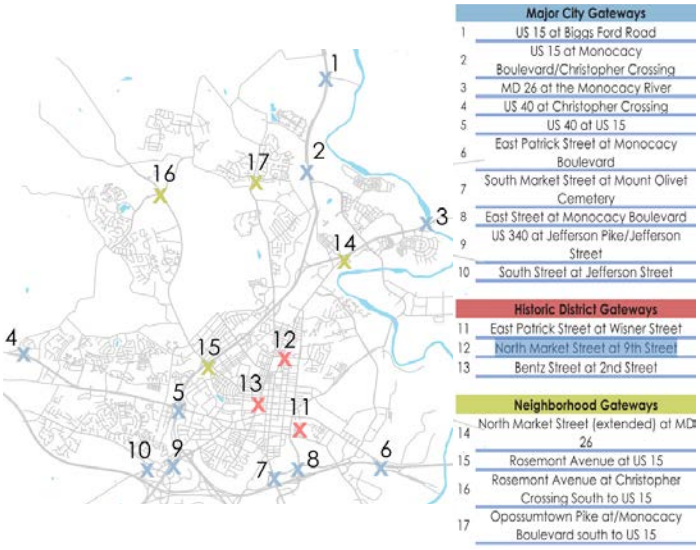
Summary of Previous & Ongoing Plans, Studies, and Projects

The project team collected and reviewed relevant previous and ongoing plans, studies, and projects influencing the East Street study corridor.

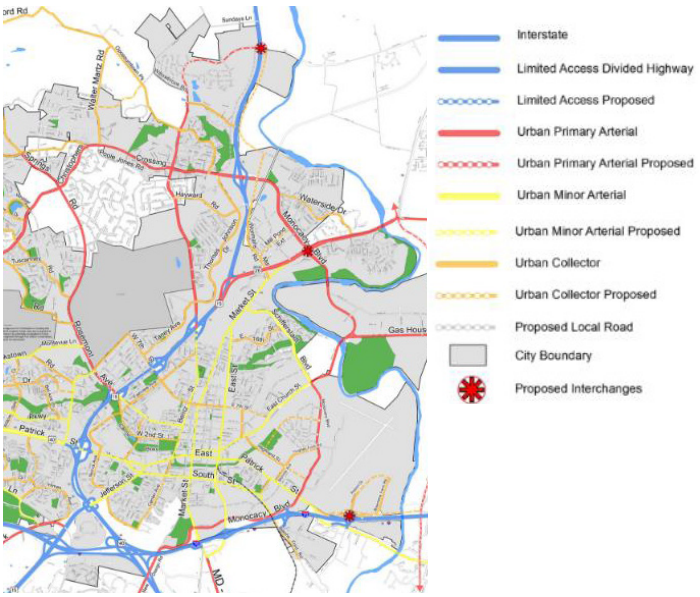
2020 Comprehensive Plan

City of Frederick, 2020

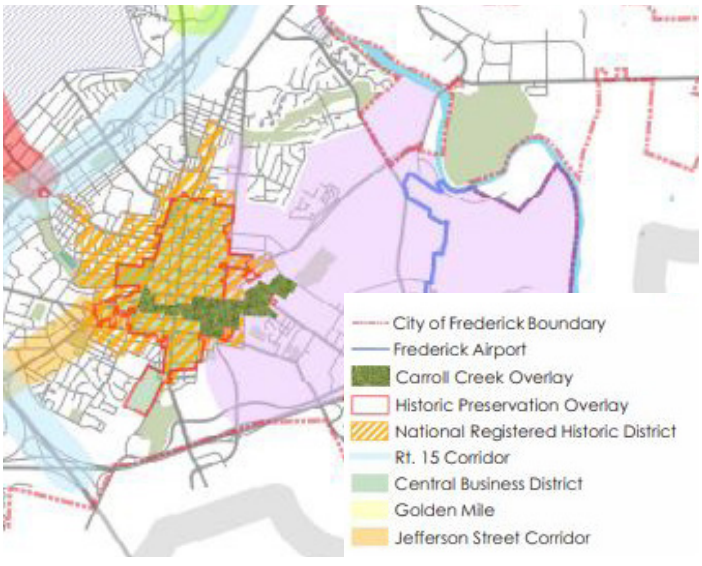
- The Comprehensive Plan promotes integrated land use patterns. Old Frederick District was established as a local historic district in 1952, including parts of East Street between East Church Street and East 2nd Street. Most of the corridor is now included as part of the Historic Preservation Overlay District and is on the National Register of Historic Places.
- East Patrick Street at Wisner Street and North Market Street at 9th Street are identified as Historic District Gateways adjacent to East Street.
- Modifications are underway to update the City of Frederick Historic District boundaries.
- East Street corridor is a prime location to 'extend' Downtown.
- East Street at Monocacy Boulevard is identified as a major city gateway.
- Areas surrounding East Street have a high concentration of people who both, live and work in the city.
- Parcels along East Street include many underutilized areas and with high redevelopment potential.
- Form-Based Code is recommended to regulate future development along East Street.
- Future land use map identifies the East Street Corridor as a mixed-use density enhancement area.
- East Street is one of seven major roadways identified as a commercial corridor with often self-contained strip centers disjointed from its surroundings.



City Gateways (2020 Comprehensive Plan)



Roadway Classification (2020 Comprehensive Plan)



Historic Districts (2020 Comprehensive Plan)

- Industrial uses are concentrated in the city's southeast, including along East Street. Heavy industrial uses serve an important role in the city's economy and are encouraged to continue. Still, future expansion should be sensitive to nearby land uses with increased screening or through character and materials reflective of Frederick. Light industrial uses such as warehousing, automobile repair, assembly operations, research and development establishments, and related office uses provide flexibility in location and design and allow transition between less intense and more intense uses.
- Future development should accommodate all modes of transportation and be designed for interconnectedness across property lines.
- Sidewalks are missing along parts of East Street and need to be implemented and maintained. 61% of survey respondents find neighborhoods with sidewalks to be appealing.
- Bike paths are proposed or are existing along East Street, including as part of the Historical Bicycle Loop connecting the many historical destinations of the city.
- Trail connections are desired along East Street to connect with Carroll Creek Park.
- East Street is a major corridor for freight trucks. They serve an essential role in the city's functioning but also pose particular safety challenges that need to be addressed.
- In the morning and evening, three trains service the MARC train station during the weekdays.
- Ridership at the MARC Frederick Station is lower than that at Monocacy Station to the south, likely due to its smaller and less accessible parking lot.
- Consider bus-only lanes along East Street to connect Downtown Frederick and the Transit Center. East Frederick Rising and the Downtown Frederick Partnership are vital stakeholders.

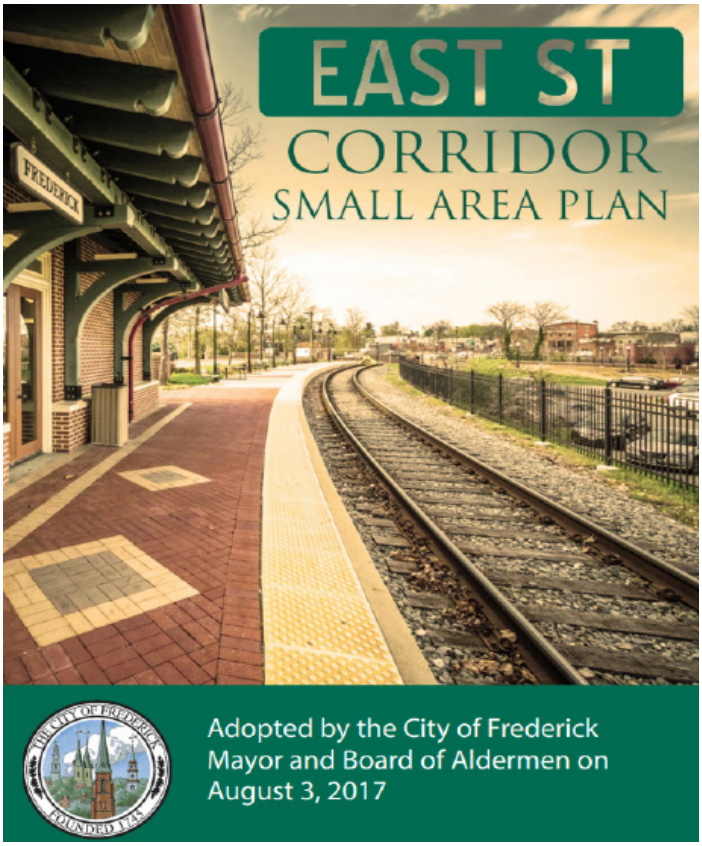
2020 Comprehensive Plan - Public Comments

City of Frederick, 2020

- Provide North-South walking and biking connectivity.
- Need for wayfinding and pedestrian-scale lighting.
- Remove old rail tracks in East Street or create a trolley transit circulator route or complete rails-to-trails project.
- Need to improve Carroll Creek crossing pedestrian infrastructure.
- Intersections identified for pedestrian, bicycle, and safety improvements: East Street/Patrick Street, East Street/7th Street, East Street/9th Street, East Street/13th Street, East Street/Market Street.
- Redevelop Brick Works site as an urban extension.
- Infill housing near MARC station.

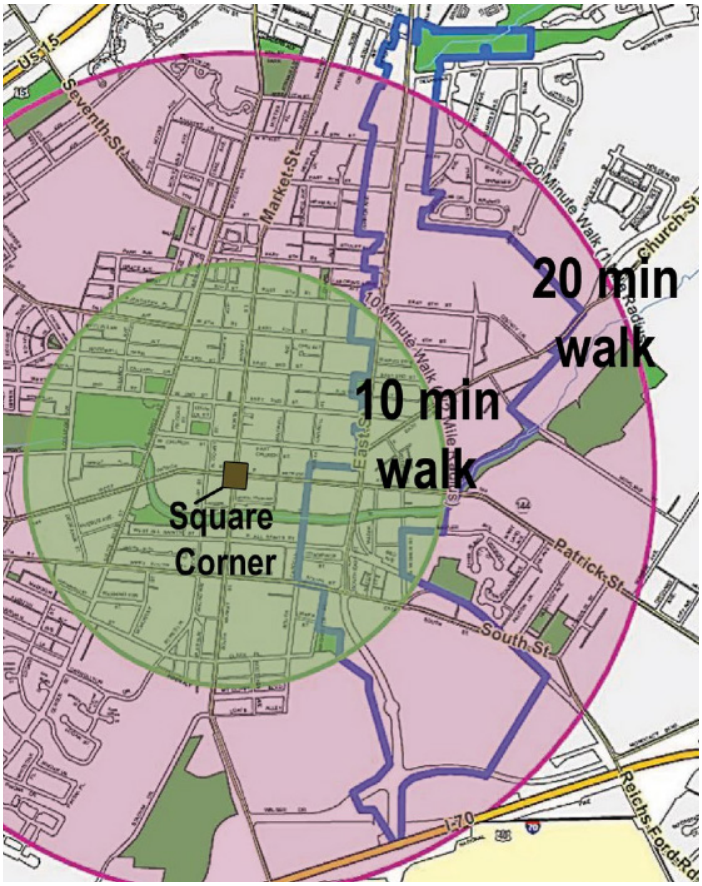
East Street Corridor Small Area Plan (ESCAP)

City of Frederick, 2017

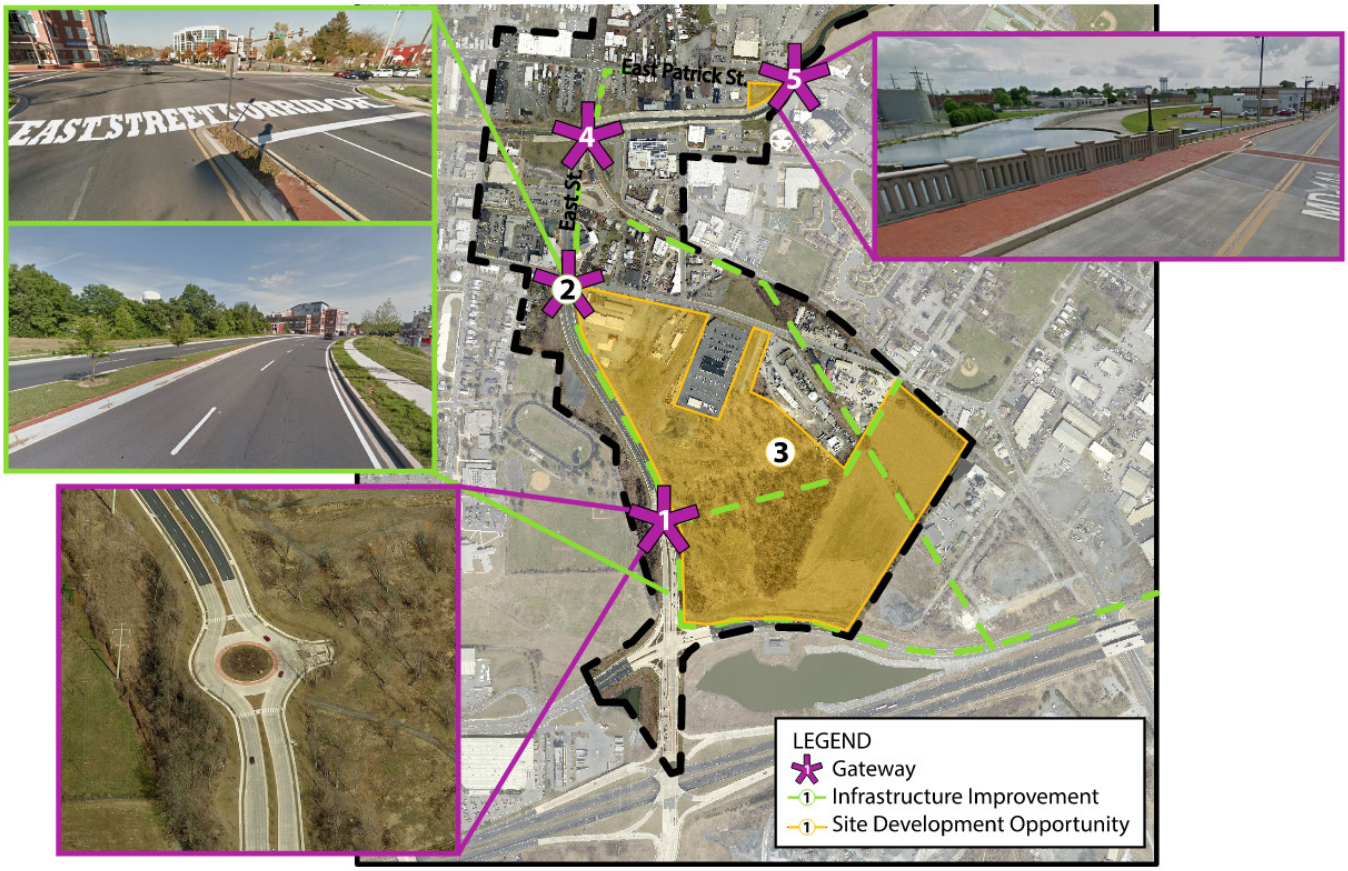


ESCAP Report Cover
Source: East Street Corridor Small Area Plan

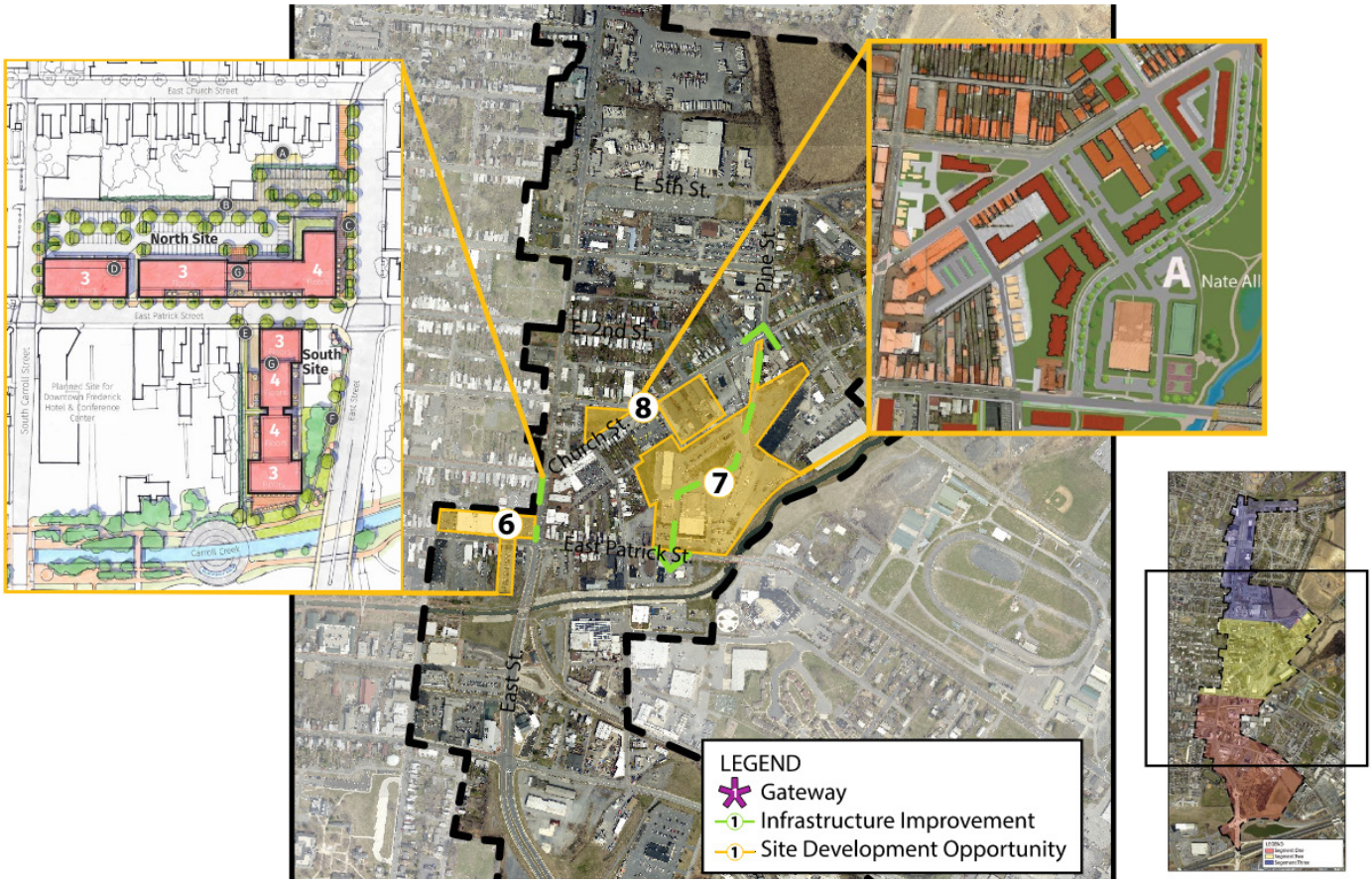
- East Street should be walkable, connected, vibrant, safe, complete, attractive, and sustainable.
- The southern section of the corridor lacks a pedestrian-friendly streetscape south of South Street but has had the most redevelopment. Shared use paths and Rails with Trails path proposed along East Street.
- The roundabout at the south of East Street presents an opportunity for creating a gateway.
- The pedestrian environment can be improved between Monocacy Boulevard and South Street by adding pedestrian lighting and extending the sidewalk to the train station.
- The Brick Works property is a significant mixed-use redevelopment opportunity.
- The intersection of East Street and Carroll Creek Linear Park should be enhanced and improved as a gateway.
- The middle section of the corridor has the most residential development retaining the streetscape fabric of Downtown Frederick. It includes pedestrian and motorist destinations at Everedy Square and Shab Row and some potential areas for large-scale redevelopment.
- The Post Office site is a redevelopment opportunity to enhance the pedestrian experience and connect to Carroll Creek Linear Park.
- The northern section of the corridor is auto-centric, with older commercial areas set back far from the street. Sidewalks are nonexistent in some areas.
- Monocacy Village Shopping Center is set back far from East Street and separated by another service road or frontage street. The frontage street is recommended for closure to utilize the space for shared use path or infill development to create a more urban environment.
- Monocacy Village Park has potential as the northern gateway to the corridor.
- The Baltimore and Ohio (B & O) Railroad lateral branch reached Frederick in 1831, passing through a significant concentration of industrial sites. The East Street (also known locally in the past as Love Lane) corridor expanded into an industry with the laying of the Pennsylvania Railroad. Some industrial centers continue to operate after over 100 years.
- Several large employers include Potomac Edison, McCutcheon's, the Post Office, Dairy Maid, Uncle Ralph's Cookies, Frederick County Public Schools, and FoodPRO.
- Less than 8-11% existing canopy coverage with potential for up to 70% canopy coverage.
- Much of the ESCAP is walkable from Downtown.



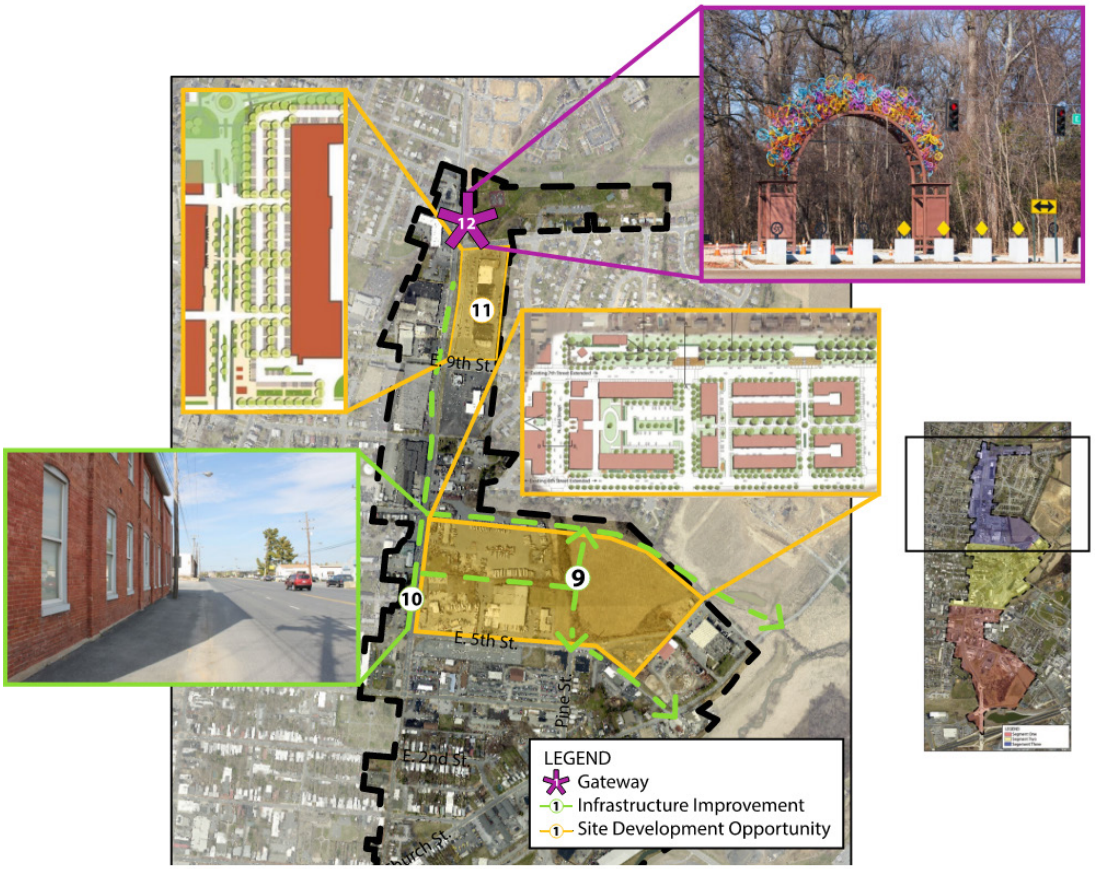
Walkability to downtown
Source: East Street Corridor Small Area Plan



Recommendations for the south section of East Street Corridor
Source: East Street Corridor Small Area Plan



Recommendations for the middle section of East Street Corridor
Source: East Street Corridor Small Area Plan



Recommendations for the north section of East Street Corridor
Source: East Street Corridor Small Area Plan

Revitalization and Development in East Frederick

ULI Technical Assistance Panel Report for the City of Frederick

East Frederick Rising (2013)

- Promote mixed-use development, specifically higher density residential along East Street.
- Extend the downtown street grid into East Frederick.
- Continue Carroll Creek Linear Park development to the east.
- East Street is a gateway to the neighborhoods and the transit hub.
- Brick Works property is an opportunity to enhance East Frederick as a mixed-use gateway.
- A Special Tax District is recommended to incentivize redevelopment and improvements along East Street.

Suggested overall street grid
Source: ULI

- Eastchurch is a planned community of approximately 400 residential units four blocks east of Shab Row, between East Street and Monocacy Boulevard at the historic Brengle Farm.
- Monocacy Valley Canning Building at the intersection of East Street & South Street is an adaptive-reuse project with 30,000 square feet of office and retail space.
- Union Mills at Carroll Creek Park is an adaptive-reuse project with 41,500 square feet of office space, 25,000 square feet of first floor retail space on Carroll Creek Park and 104 parking spaces.

Frederick Town Historic District Design Guidelines

City of Frederick (2019)

- The Frederick Town Historic District Design Guidelines have been developed to assist the Historic Preservation Commission in reviewing the exterior rehabilitation of historic properties, new construction, and demolition.
- Most of the East Street corridor is part of the historic district.
- Streetscaping materials, landscaping, lighting, signage, art, and technology are all included in the Design Guidelines.

Complete Streets Policy

City of Frederick (2016)

- The City adopted the following Complete Streets Policy in 2016: A street that safely and adequately accommodates motorized and non-motorized users, including pedestrians, bicyclists, motorists, freight vehicles, emergency vehicles, and transit riders of all ages and abilities, in a manner appropriate to the function and context of the facility.

Downtown Frederick Streetscape Study

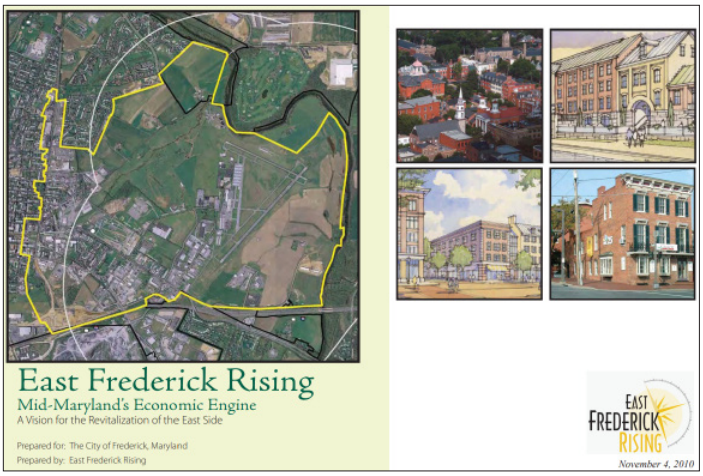
Downtown Frederick Partnership and City of Frederick (2021)

Gateways
Source: Downtown Frederick Streetscape Study

- Downtown Frederick Partnership and The City of Frederick developed this streetscape Study for Market Street and Patrick Street within Downtown Frederick.
- This Study aimed to create design solutions, set priorities, and determine a framework for future streetscape improvements.
- This Study proposes a gateway at East Patrick Street and East Street at the location of the existing Post Office.

East Frederick Rising: Mid-Maryland's Economic Engine - A Vision for the Revitalization of the East Side

East Frederick Rising (2010)



East Frederick Rising Vision: Report Cover
Source: East Frederick Rising

- Plan Vision: A revitalized east end of the city that is a vibrant, safe, and diverse place where residential and commercial opportunities flourish and expand in accordance with smart growth principles.
- Planning Principles for East Street corridor:
  - Make East Street a regional hub for economic growth.
  - Create places to reinforce and strengthen the historic character of East Frederick.
  - Invest in infrastructure along the East Street corridor.
  - Transform East Street and other streets in the study areas as livable streets.

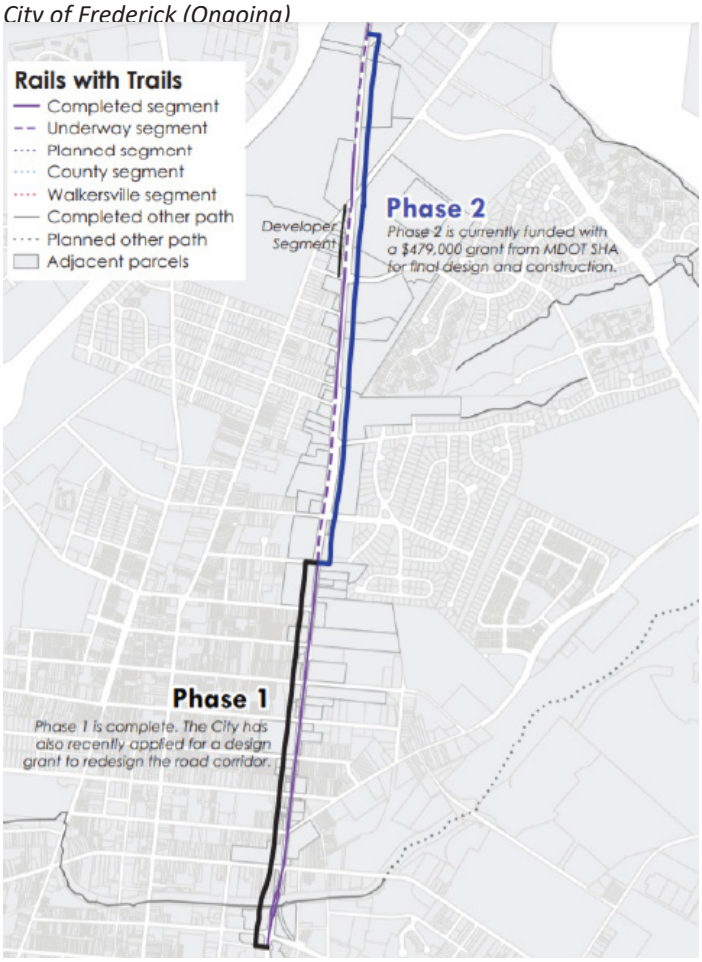
East Street Rails with Trails Design Report

City of Frederick (2013)

- East Street Rails with Trails recommends bicycle infrastructure from Monocacy Boulevard to the downtown Frederick MARC station along the old Pennsylvania Railroad line.
- Rails with Trails has four phases, along with a possible bypass:
  - Phase 1 - a set of "sharrows" (pavement markings) from the MARC Station to East 7th Street.
  - Phase 2 - a shared-use path along East Street's east side from East 8th Street to 800 feet south of the US15/MD 26 interchange.
  - Phase 3,- extending the shared-use path directly north to just past Clemson Corner, including a bridge over the interchange.
  - Phase 3A - a potential bypass of the bridge that would extend the path east along the south side of MD 26 to Wormans Mill Road.
  - Phase 4 - an extension of the shared-use path from Clemson Corner to Monocacy Boulevard, where it will connect with the county segment.

Let's Move Frederick: Comprehensive Pedestrian and Bicycle Plan

City of Frederick (Ongoing)



East Street Rails with Trails - Phase 1 & 2 Plan
Source: City of Frederick

- This plan will outline existing walking and biking conditions in Frederick and identify missing links, gaps, prioritize projects that promote connectivity, comfort, and equity.

North Market Protected Bicycle Lane
City of Frederick (Ongoing)

- Identifies a two-way separated bicycle facility on the western side of Market Street that will provide connectivity between Routzahn Way to 9th Street, connecting with identified facilities on East Street and 7th Street.

- An ongoing pilot project currently exists, but further construction is on hold until the East Street Rails with Trails Phase 2 construction completes.

7th Street Bicycle Lane
City of Frederick (Ongoing)

- Identified as a key route for providing an equitable, safe, and connected multi-modal network, 7th Street connects Market Street and East Street, and the bicycle facilities designed for this route will correspond with the larger network.

- Phase 1: Market Street to US-15 is ongoing as a feasibility study.

- Phase 2: Market Street to East Street will commence following the completion of Phase 1. No timeline is identified.

Capital Improvements Program (CIP) Projects

The City of Frederick Capital Improvements Program for Fiscal Year 2020—Fiscal Year 2025 includes the following projects along the East Street study corridor:

- CIP #310304 - Monocacy Boulevard (Central Section, Phase 2) – Four lane arterial road with adjacent shared use paths, intended to relieve motor vehicle traffic congestion on East Street south of Carroll Creek.

- CIP #320029 – Street Maintenance (Asphalt Repair/ Replacement and Installation of ADA Ramps) – E 5th St, Pine Ave / East St, which entails upgraded pavement and ADA ramps at the E 5th St / East St intersection.

- CIP #340008 – ADA Intersection & Corridor Improvements – The intersection of East St / Peter's Lane will be improved with pedestrian signals, ADA ramps, signs, striping, and sidewalk replacement.

- CIP #340401 – Traffic Signal Construction –
  - The intersection of East St / E All Saints St will have a new signal installed
  - The intersection of East St / E Patrick St will have a right turn lane installed

- CIP #380004 – Rails to Trails (Phase 2) – Construction of a 12' shared use path along the east side of East St between 8th St / Frederick Indoor Sports Center, which includes pedestrian improvements at 9th St, Delaware, 15th St, and 16th St, as well as waystation improvements at Monocacy Village Park and North Market St. On-street bike facilities and additional striping improvements will be installed between 3rd St / Market St.

- CIP #380408 – Site G Parking Garage – A 650 space public parking garage between S Carroll St, E South St, S East St, and Commerce St to be constructed over 5 – 10 years to accommodate development in east downtown and east Frederick.

Figure 1.7 maps the CIP projects along East Street.

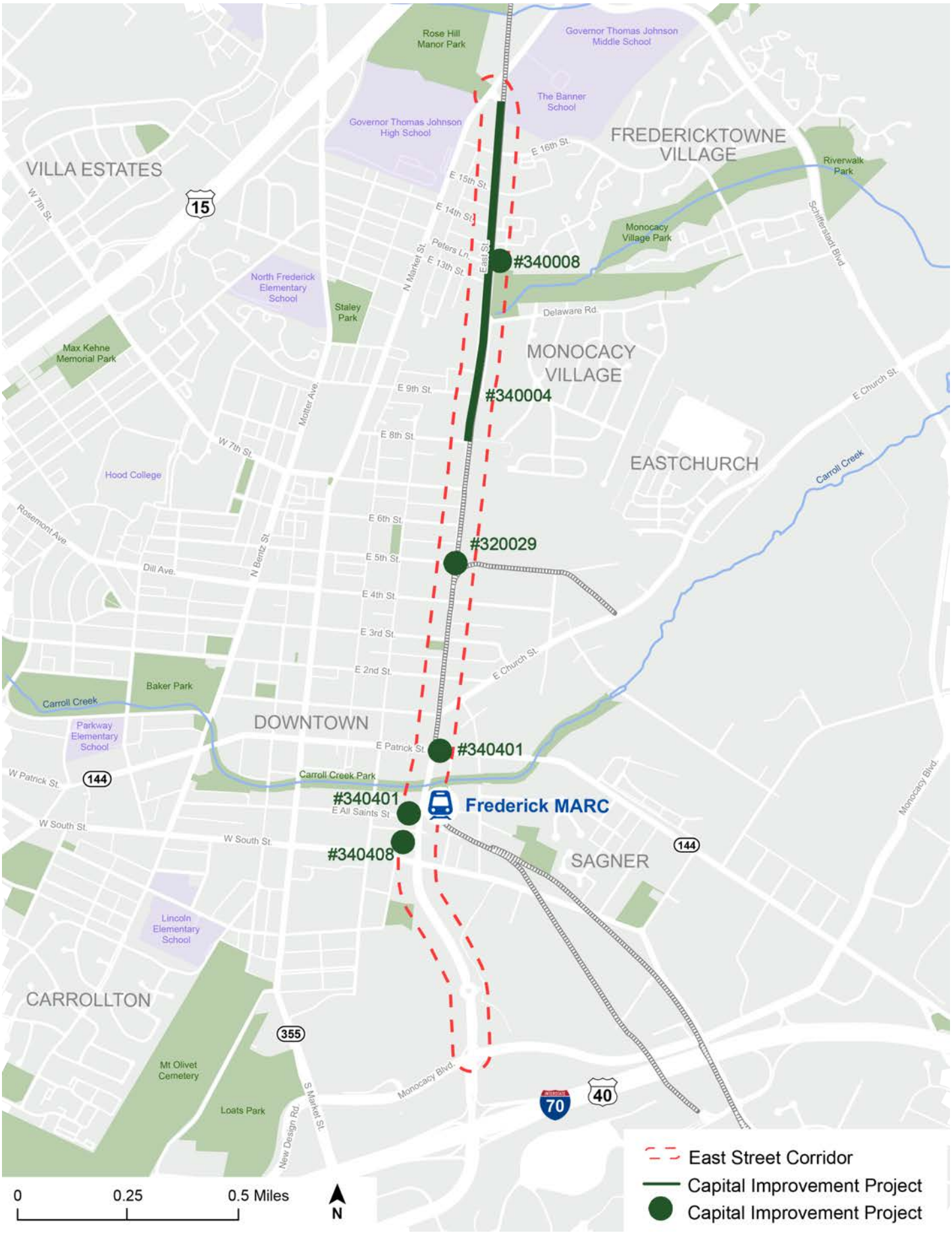


Figure 1.7: CIP Projects
Source: City of Frederick


ANTIQUE IMPORTS
SHAB ROW
TE
TEA EMPORIUM
Steve Hissey
Guitar Studio
sisters in style
OPEN
TE
ENJOY
a cup of tea
brewed fresh
for you
Over 300 varieties of
loose leaf tea & accessories

2. Existing Conditions Analysis

A full inventory of existing corridor-wide conditions sets the stage for identifying issues and opportunities along the East Street study corridor. This assessment included mapping and analyzing both physical and socio-economic conditions applicable to improving multi-modal transportation conditions, land use development, and developing urban design and place-making strategies. The project's overall vision and goals helped select relevant datasets to be collected, mapped, and analyzed. This analysis will be utilized in the planning process to inform the current conditions to the stakeholders and help identify recommendations.

The following datasets were collected, mapped, and analyzed as part of existing conditions analysis in the context of developing this plan. The GIS data was collected from the City's GIS database as well as other open-source datasets such as Frederick County, MD GIS Open Data, Maryland's GIS Data Catalog, US Census, and BLS.

Land Use Data

- Existing Zoning
- Existing Land Use
- Future Land Use

Pedestrian & Bicycle Facilities

- Existing & Proposed Pedestrian Facilities
- Existing & Proposed Bicycle Facilities

Transit Facilities

- Transit Network - TransIT Routes & Stops

Major Destinations

- Schools
- Libraries
- Government Facilities
- Farmer's Market
- Cultural Centers
- Post Offices
- Places of Worship
- Shopping Centers
- Hotels
- Parks

Demographic & Employment Data

- Population Density
- Population Percentages by Race
- Senior & Youth Population Density
- Households in Poverty and Households without Car
- Employment Density
- LEHD Data and Commute Patterns
- Equity Emphasis Areas

Roadway Characteristics

- Roadway Functional Classification
- Traffic Control Devices
- Traffic Volumes
- Posted Speed

Crashes

- Pedestrian Crashes
- Bicycle Crashes

Land Use Analysis

Existing Land Use

Land use data was mapped to understand the pattern of development and mix of uses across the study corridor. Generally, areas with a high mix of land uses generate many pedestrian and bicycle trips since various destinations are located within close proximity.

The East Street corridor serves a variety of commercial, industrial, residential, and recreational land uses, as displayed in Figure 2.1. The following list broadly categorizes land use patterns by different study corridor segments:

- **Monocacy Boulevard to South Street:**
  - Mostly vacant and recreational land uses.
  - Includes the large 72-Acre vacant Frederick Brick Works site, which is one of the prime redevelopment opportunities.
- **South Street to Church Street:**
  - Predominantly downtown commercial land use with some recreational & institutional uses.
  - Many major destinations located on this segment such as the MARC Station, Carroll Creek Park, and Frederick Visitor Center.
  - Includes the 3-Acre USPS property that has been identified for potential redevelopment in the past.
- **Church Street to 4th Street:**
  - Predominantly downtown commercial land use with some residential parcels.
  - Includes the Everedy Square & Shab Row shopping center, 3rd Street park, and the historic St. John's Cemetery.
- **4th Street to Delaware Road:**
  - Mostly industrial and suburban commercial land uses.
  - Includes large industrial uses such as FoodPRO, Brandenburg Electric, and Dairy Maid.
  - Some of the shopping centers, such as Monocacy Village Shopping Center, have been identified for redevelopment in the past.
- **Delaware Road to Market Street:**
  - Predominantly residential land uses with some recreational and institutional uses.
  - Includes Monocacy Village Park, Northampton Manor Nursing and Rehabilitation Center, and schools to the northern end of the study corridor.

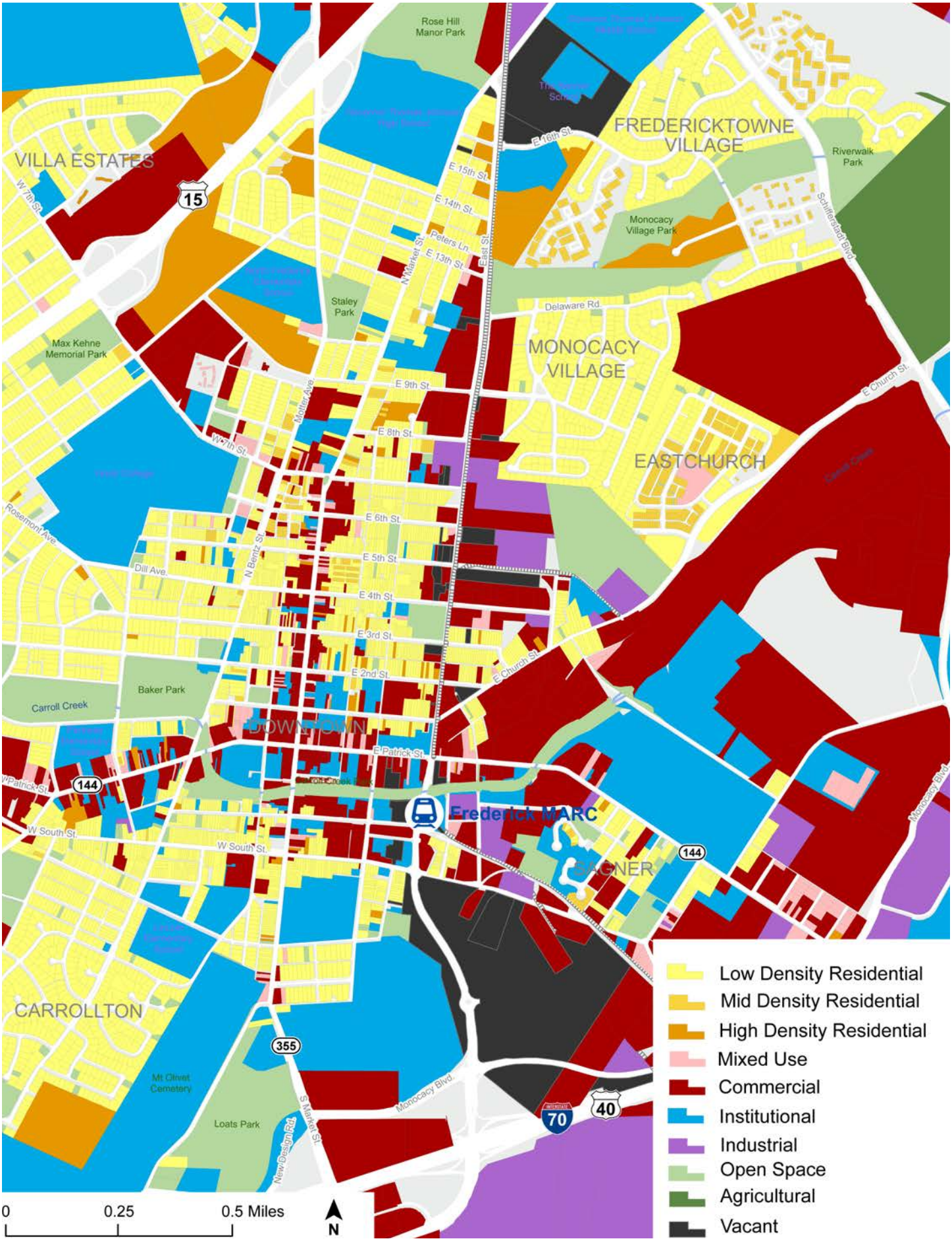


Figure 2.1: Existing Land Use (2020)
Source: Maryland Department of Planning

Major Destinations

Land use analysis included developing a list of major destinations. Major destinations such as schools, parks, government offices, libraries, and other attractions are often origins or destinations of many trips. Major destinations are mapped in Figure 2.2.

The segment between South Street and 3rd street has a cluster of many destinations.

Some of the major destinations along the study corridor are listed below from south to north:

1. Harry T Greager Memorial Athletic Field
2. Frederick Visitor Center
3. MARC Station (Bus Transit Center + Greyhound Station)
4. Carroll Creek Linear Park
5. Everedy Square & Shab Row
6. Roads and Rails Museum
7. East 3rd Street Park
8. St. John's Cemetery
9. Monocacy Village Shopping Center
10. Frederick Pump Track & Monocacy Village Park
11. Northampton Manor Nursing and Rehabilitation Center
12. The Banner School
13. Rose Hill Manor
14. Governor Thomas Johnson High School

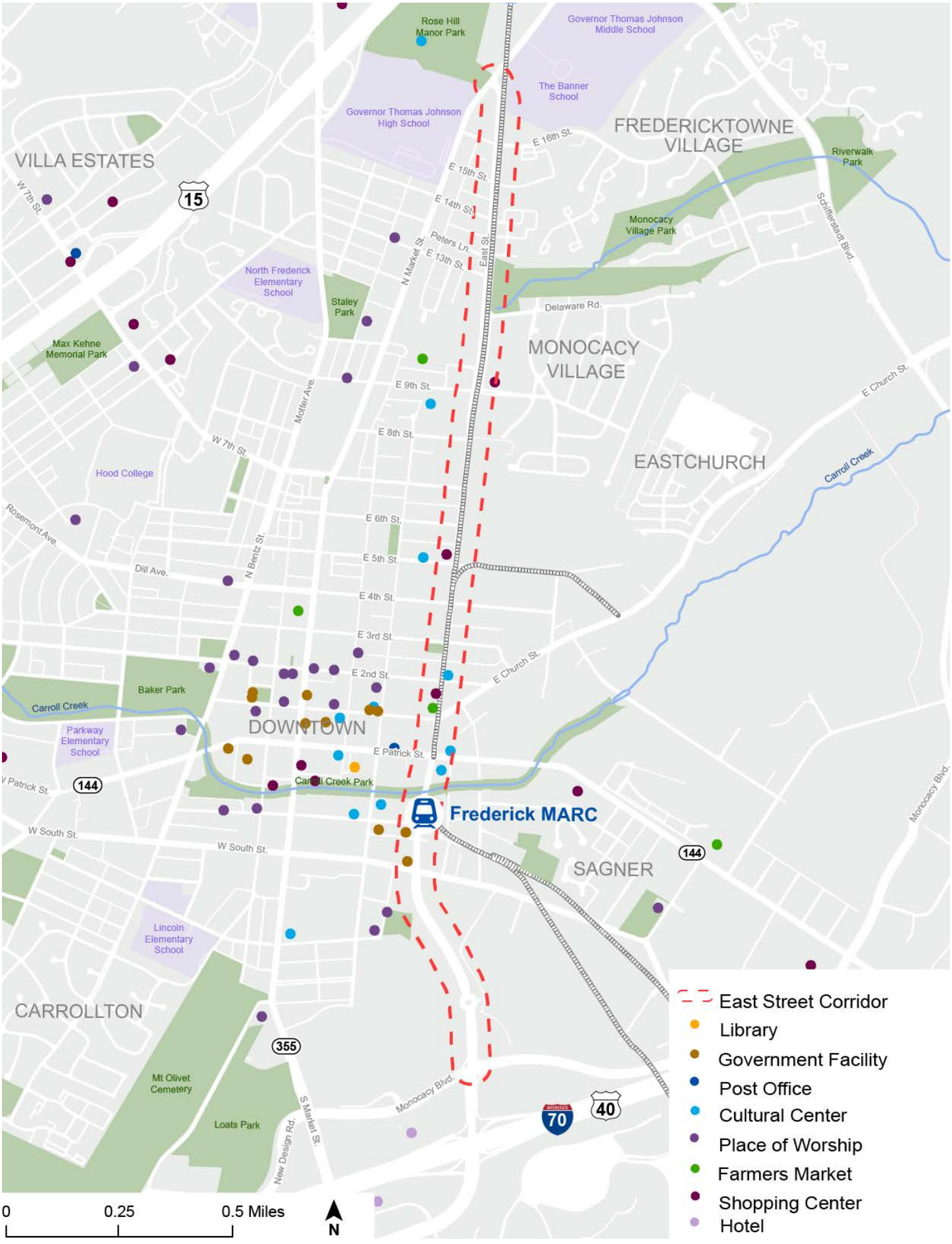


Figure 2.2: Major Destinations
Source: City of Frederick

Zoning & Future Land Use

The study corridor is currently zoned for multiple land uses that reflect the patchwork of diverse uses. Figure 2.3 maps existing zoning. Various sections of the study corridor currently have the following zoning districts:

- Mixed-Use (MU1)
- Downtown Business (DB)
- Downtown Residential (DR)
- Light Industrial (L1)
- General Commercial (GC)
- Institutional (IST)
- Residential 16 Units per Acre (R16)

The city's future land use designates most of the East Street corridor (Monocacy Boulevard to Delaware Road) as Downtown Mixed-Use, which will continue to allow for the variety of land uses that currently exist, including a range of housing options, commercial, office, and industrial activity, and open space. As per the City's 2020 Comprehensive Plan - "The intent of this designation is to enhance and expand the downtown mixed-use area including the extensions of the historic gridded street pattern and the compact, mixed-use development with buildings oriented to the street as downtown infill and adjacent areas are redeveloped for new uses. Where residential development occurs, ground floor retail is encouraged, and minimum building heights may be applied to transit areas." East Street corridor from Monocacy Boulevard to Delaware Road is also part of a Density Enhancement Area. As per the City's 2020 Comprehensive Plan - "All maximum density provisions have been removed from this area. The goal is to encourage higher population density near downtown, where infrastructure and services can support the additional residents. This area is confined in areas around transit hubs and areas of anticipated redevelopment. For the most part, these areas contain large lots outside of the Historic Preservation Overlay so they can accommodate increased heights and densities above 75 units per acre without compromising the historic fabric of the City." Figure 2.4 maps the Density Enhancement Area.

The northern part of the study corridor (North of Delaware Road) is planned for High-Density Residential land uses. As per the City's 2020 Comprehensive Plan - "This category would allow for 18 or more units per acre and includes dense attached dwellings, apartments, and condominiums. Although this is a residential district, ground floor commercial/retail uses may be appropriate. Secondary uses including neighborhood-serving retail and services may be appropriate." Figure 2.5 maps future land use.

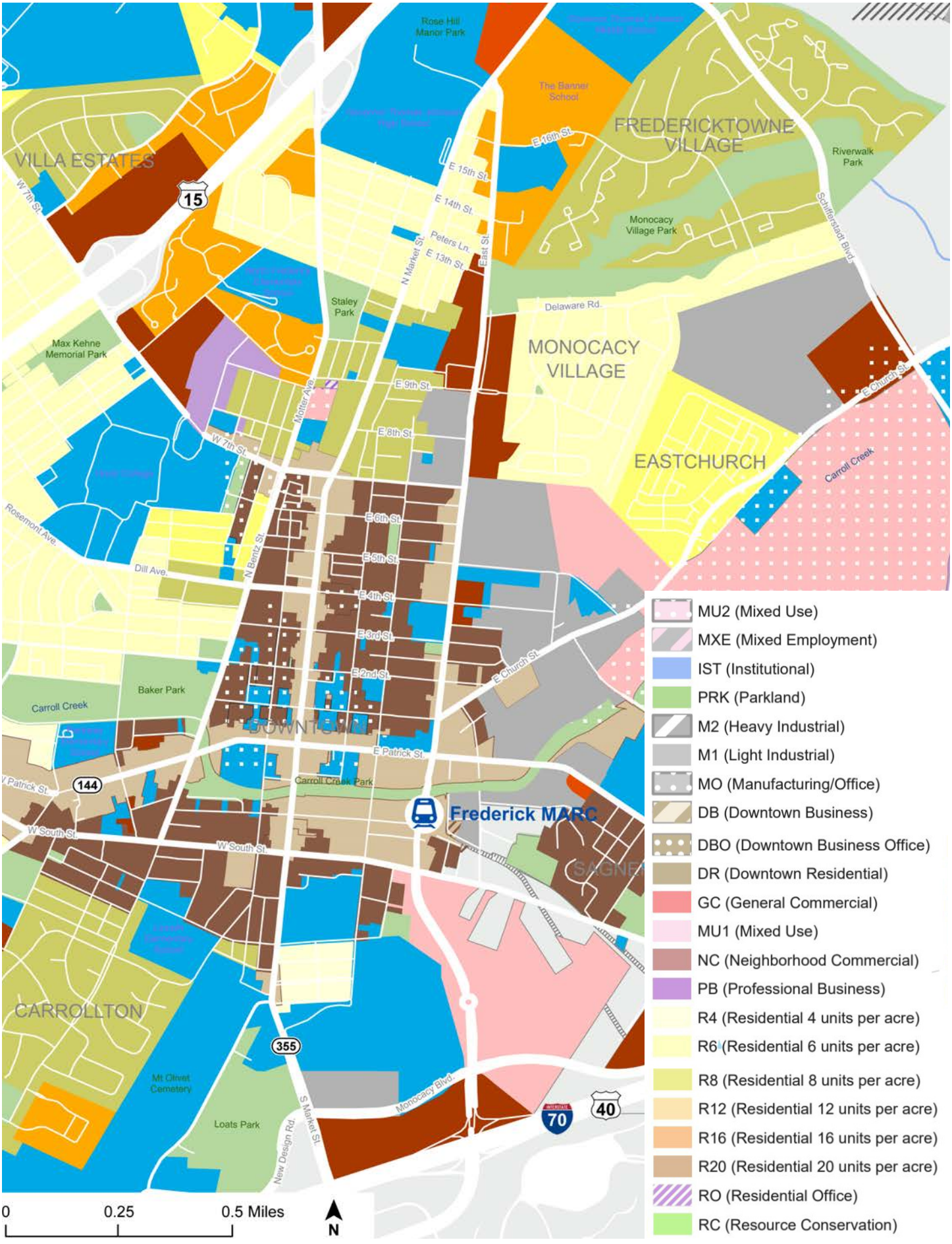


Figure 2.3: Existing Zoning (2020)
Source: City of Frederick

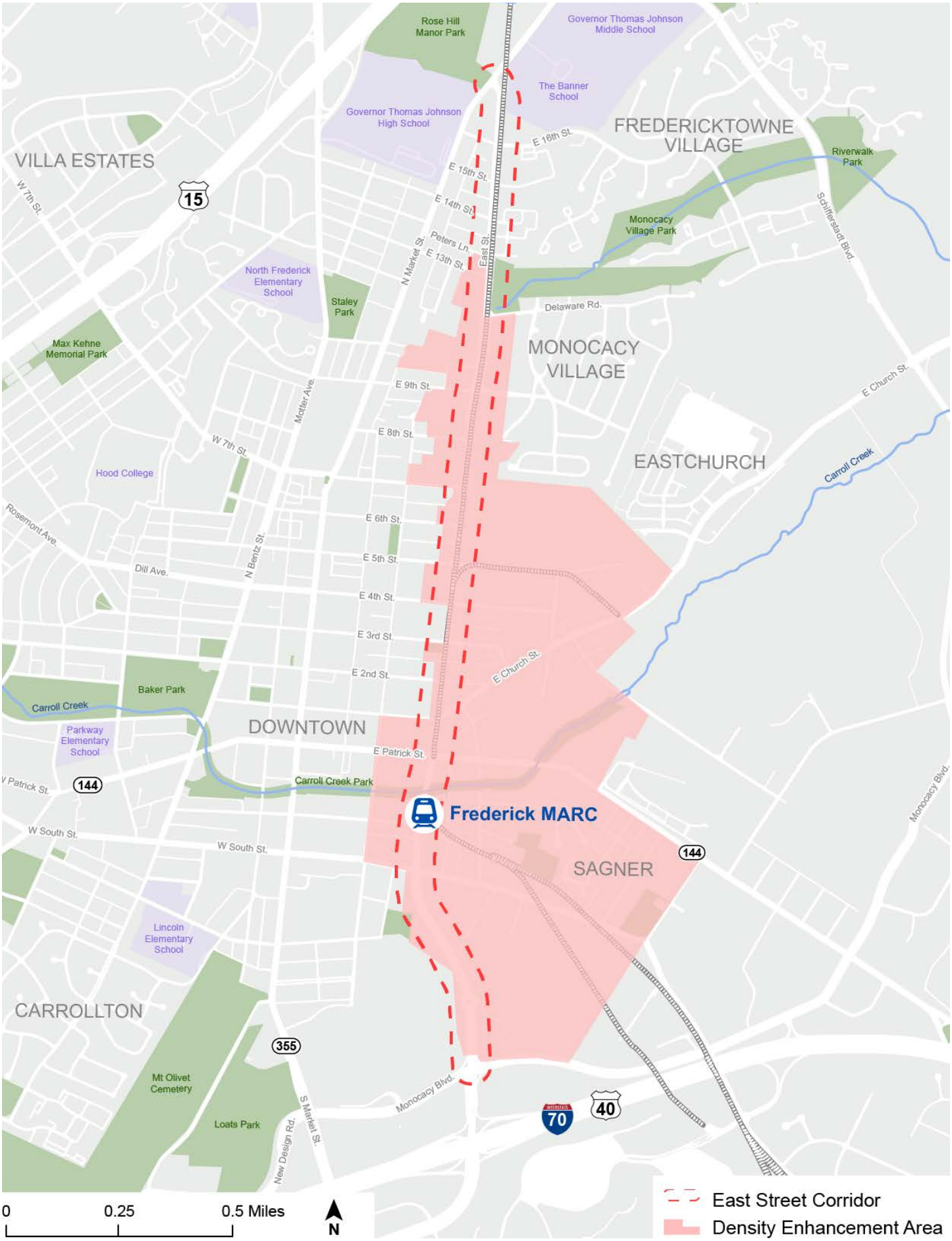


Figure 2.4: Density Enhancement Area
Source: City of Frederick

Figure 2.5: Future Land Use
Source: City of Frederick

Potential Redevelopment Opportunities

Many previous plans and studies identified specific properties as opportunities for redevelopment. Additionally, parcel-level data from the Maryland Department of Planning website that contains the assessed land value and improvements value for tax purposes was used to calculate vacant and underutilized parcels.

Vacant and underutilized parcels are also potential opportunities for redevelopment. Properties with an improvements value of less than 40% of the total (land + improvements) value were categorized as underutilized. Prior to these calculations, any parcels with land uses such as parks and open spaces, cemeteries, water bodies, etc., were removed from the dataset. Figure 2.6 shows existing vacant and underutilized properties.

For sale/lease sign along the study corridor.

Sign advertising a potential infill development project along the study corridor.

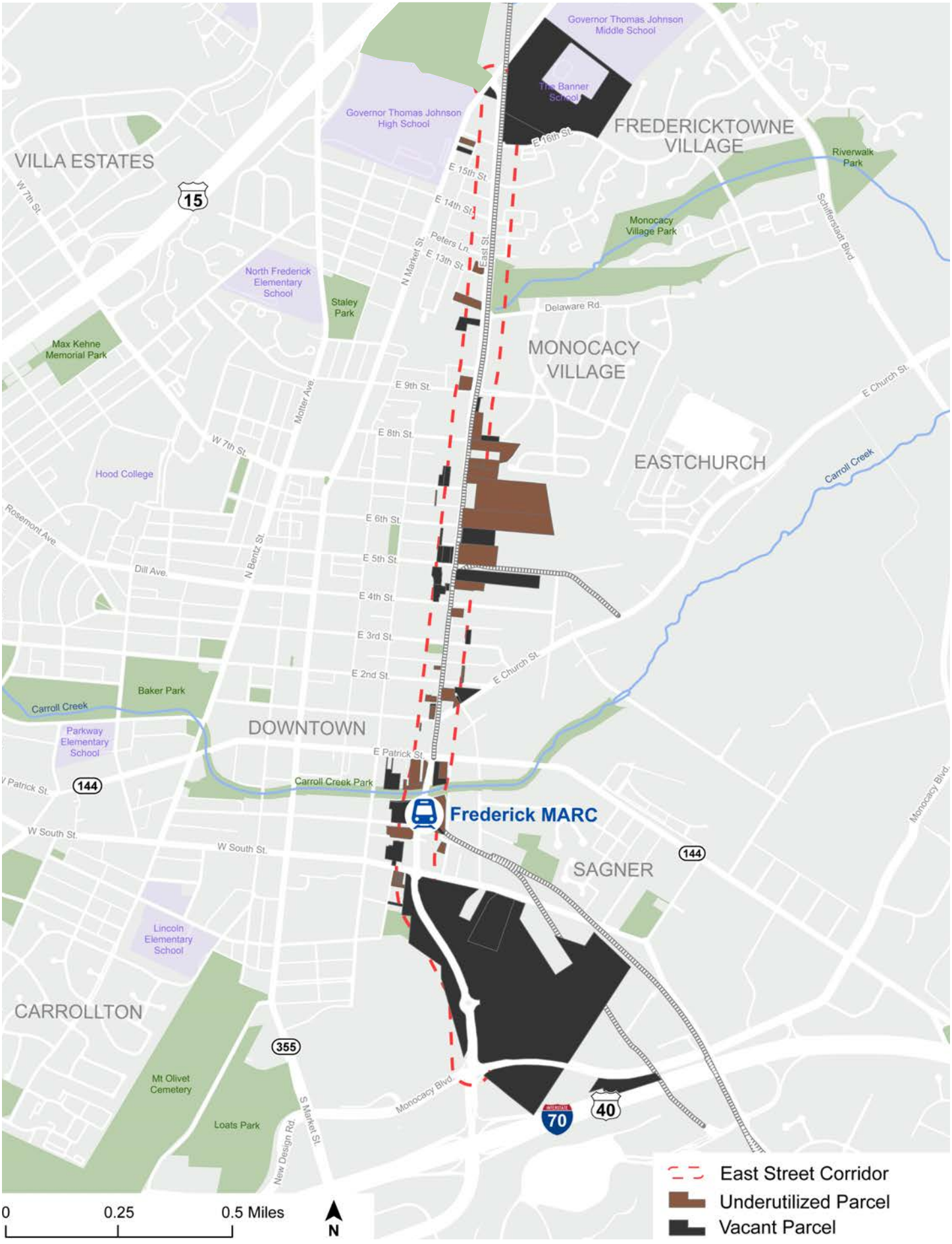


Figure 2.6: Existing Vacant and Underutilized Properties
Source: City of Frederick and Maryland Department of Planning

Demographic Analysis

The study corridor's demographic data was studied using the Census Bureau American Community Survey (ACS) 2019 5-Year Estimates as part of the existing conditions analysis to understand the patterns in population and employment density. The goal of this analysis is to identify areas within the study corridor that may have a high concentration of people who may be transportation disadvantaged or may depend on non-automobile modes of transportation.

One of the objectives of this study is to develop recommendations that are equitable. The demographic analysis will assist in understanding patterns in the study area where there may exist a greater need for multi-modal transportation infrastructure. Demographic groups that often suffer from transportation disadvantages include :

- Households in poverty
- Households with no vehicles/cars
- People who commute by transit, walking, or biking
- Children and seniors
- Population residing in designated Equity Emphasis Areas

Population Density

Population density is highly concentrated in the downtown area. Population density is higher in the northern half of the study corridor as compared to the southern half.

The population densities along the study corridor are relatively high and can reflect a potential demand for enhanced pedestrian, bicycle, and transit facilities. Areas with higher population density generate a higher number of pedestrian, transit, and bicycle trips.

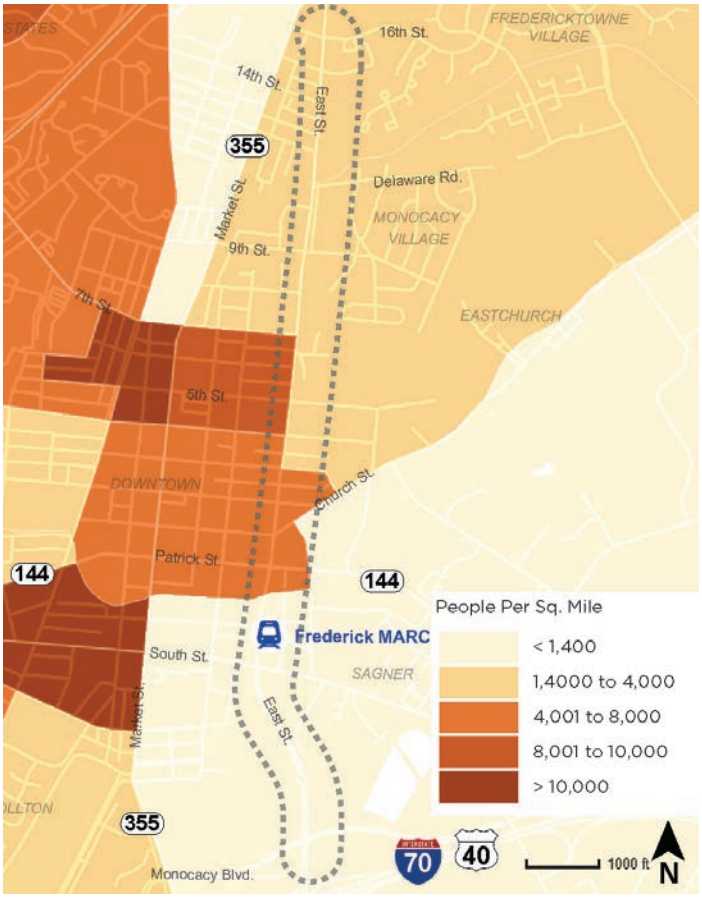


Figure 2.7: Population Density

Youth and Senior Population

Seniors aged 65 and over and children aged 18 and under are two age groups with a high propensity to walk, bike, or take transit and are comparatively less likely to drive automobiles.

Seniors and youth populations differ geographically throughout the study corridor. The senior population is concentrated on the northern side of the study corridor. The youth population is concentrated outside the downtown area on the east side of East Street and the west side of Bentz Street.

In the northeast area of the study corridor, between 16% to 23% of residents are under age 15. While in the northwest area, between 26% to 43% of residents are over 65 and over.

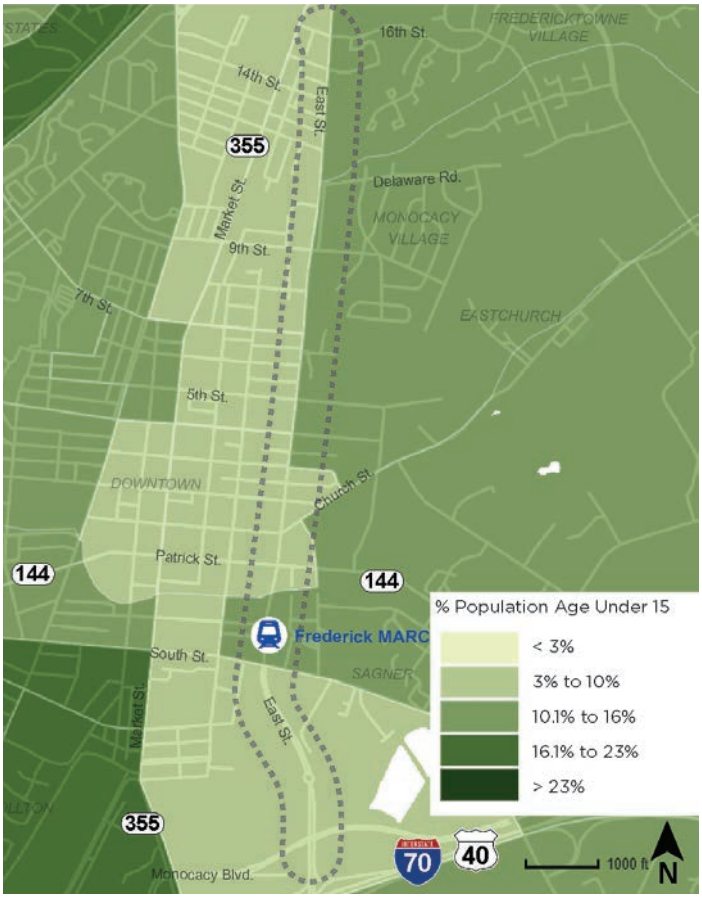


Figure 2.8: Percent of Population Under 15

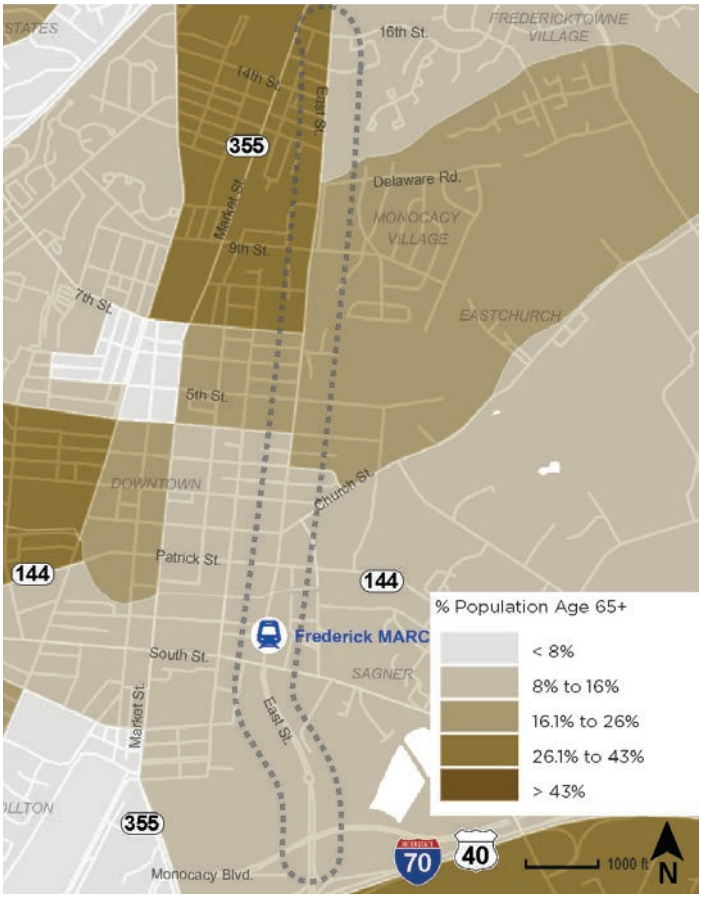


Figure 2.9: Percent of Population 65 and Over

Population by Race

Figures 2.10 to 2.13 map the study area's demographic data by race. As per US Census ACS 2019 5-Year Estimates, City of Frederick's population is around 68% White, 20% Black or African American, 6% Asian, and 6% Other races or two or more races.

White

City residents self-identifying as White are concentrated in the downtown area and in the northern parts of the study corridor, especially on the west side of East Street. In these Census Block Groups, around 88% to 91% of residents identify as White.

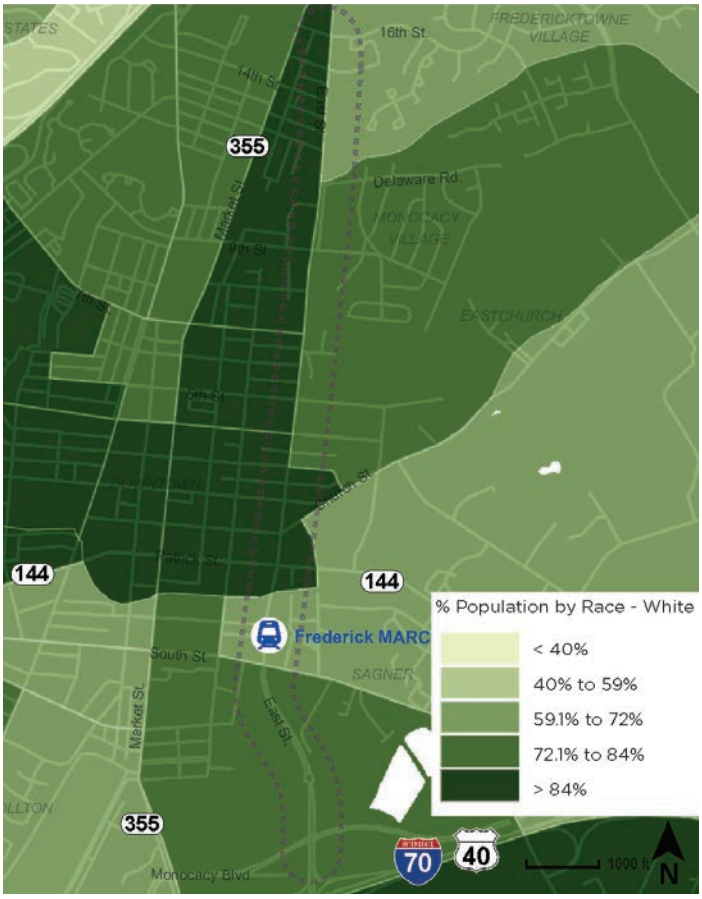


Figure 2.10: Percent of Population by Race - White

Black or African American

City residents self-identifying as Black or African American are concentrated in the eastern parts of the study corridor, especially on the east side of East Street and around the MARC station.

East of the study corridor, between 8% to 27% of residents identify as Black or African American, compared to less than 8% west of the study corridor.

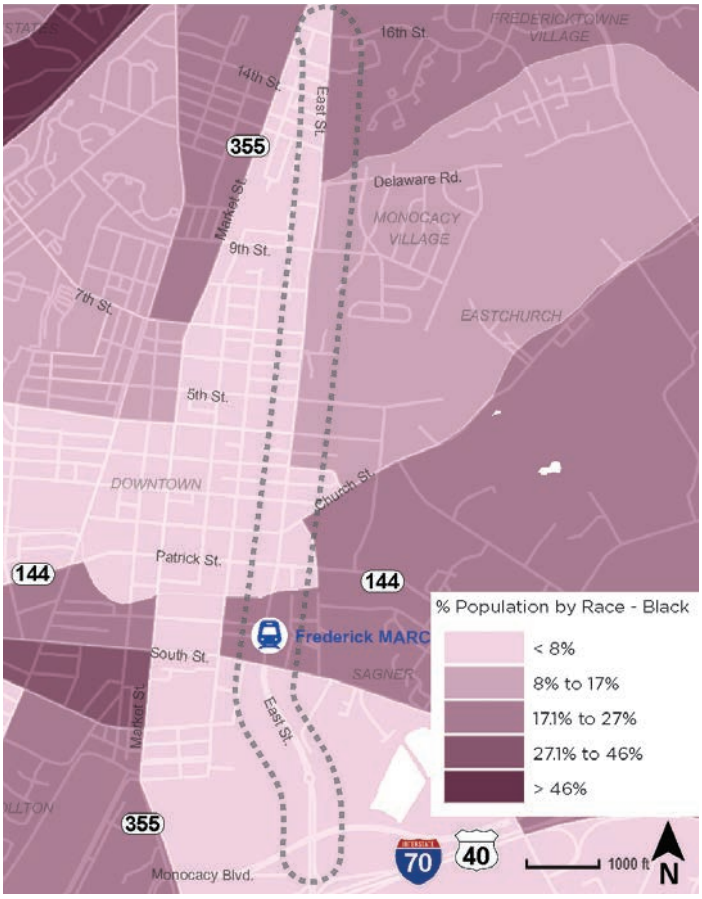


Figure 2.11: Percent of Population by Race - Black or African American

Asian

City residents self-identifying as Asian are concentrated in the eastern parts of the study corridor, especially on the east side of East Street and around the MARC station. The downtown area also has a cluster of residents self-identifying as Asians. In these Census Block Groups, around 6% to 7% of residents identify as Asian.

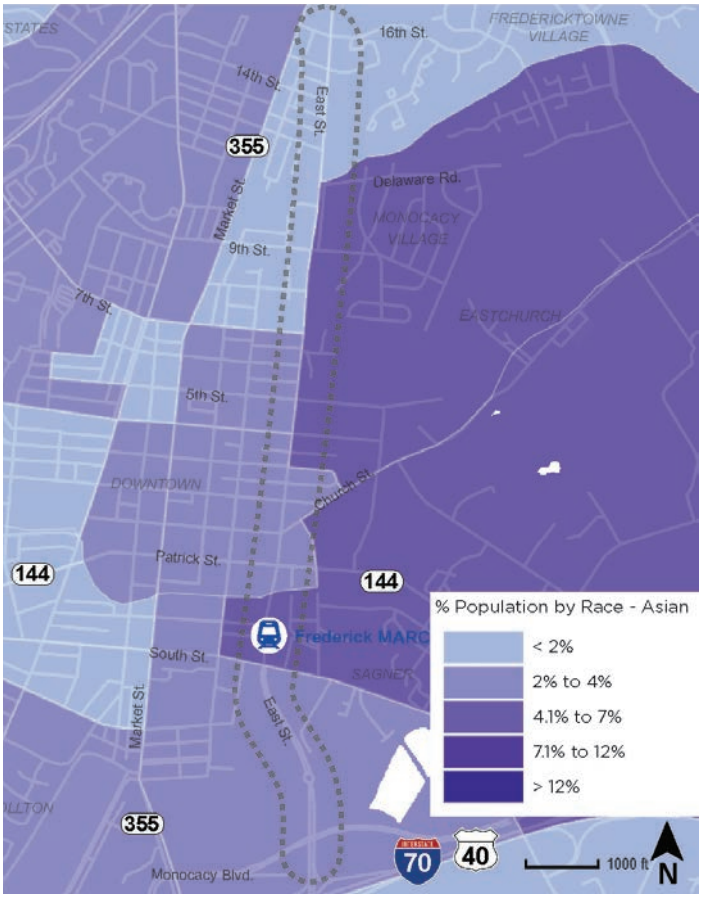


Figure 2.12: Percent of Population by Race - Asian

Hispanic or Latino

There are relatively very few residents in the study area that self-identify as Hispanic or Latino. City residents that self-identify as Hispanic or Latino are concentrated in the northeastern parts of the study corridor, especially on the east side of East Street, where the percentage of residents identifying as Hispanic or Latino is around 14% for that Census Block Group.

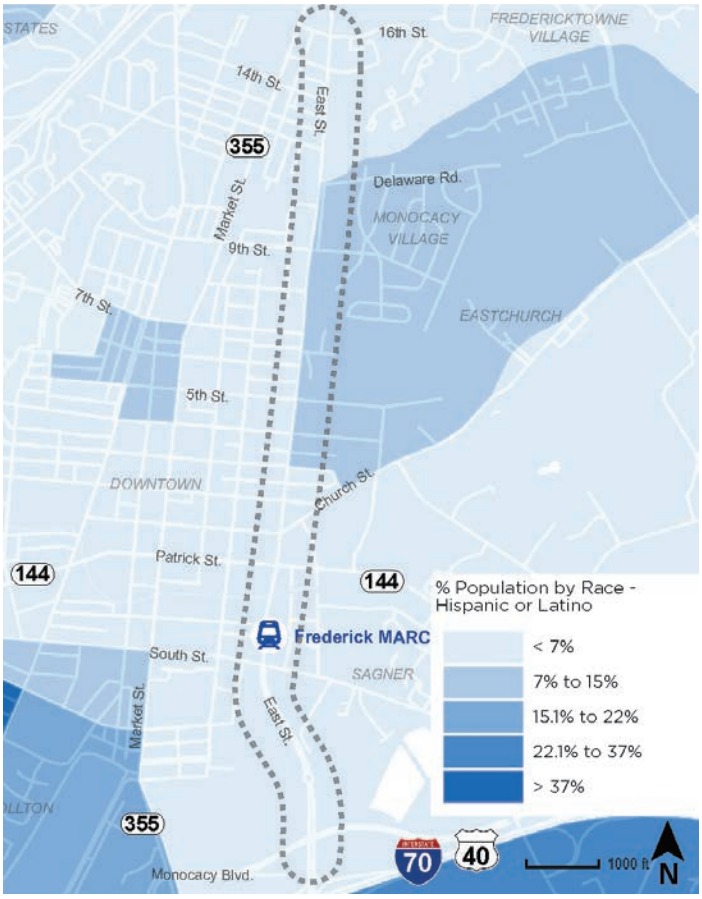


Figure 2.13: Percent of Population by Race - Hispanic or Latino

Commute Patterns

Most residents in Frederick commute by single-occupancy automobiles. Although residents choose to commute primarily using a personal car, the city has a historic downtown area, with short block lengths, mixed land uses, and a network of sidewalks and trails that can support walking and bicycling. The City is committed to enhancing bicycle and pedestrian infrastructure by connecting activity centers to neighborhoods with bicycle facilities and sidewalks.

Figures 2.14 to 2.17 display commute behavior collected by Census Block Groups from the American Community Survey for the years 2015 to 2019. These maps reflect commute behavior and do not incorporate recreational bicycling and walking.

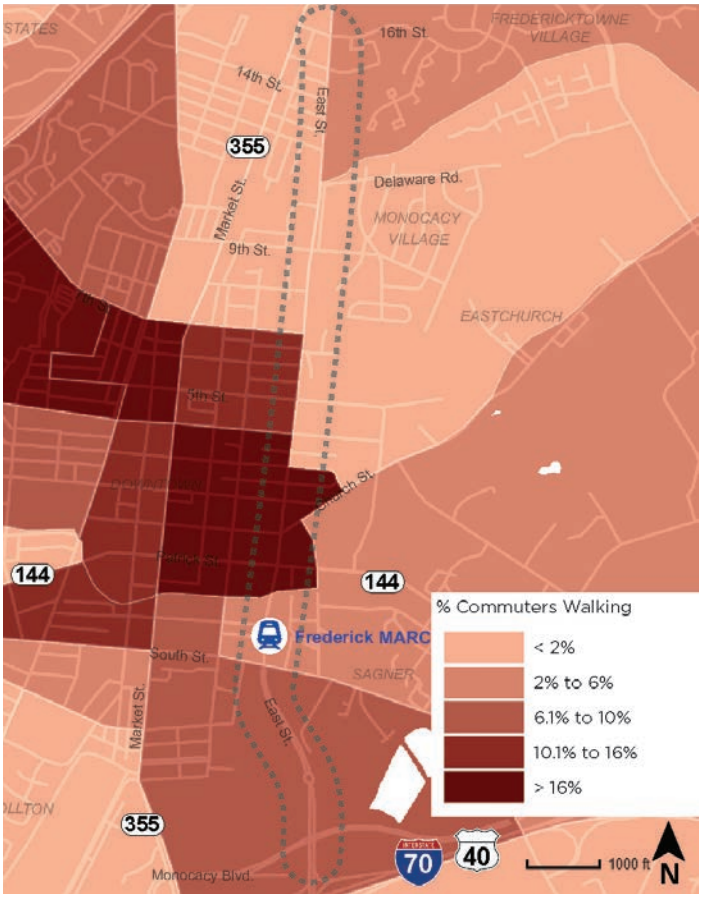


Figure 2.14: Percent of Commuters Walking

Commute by Walking

Walking commuters are concentrated in the downtown area where the percentage of commuters walking constitutes around 23% of total commuters for that Census Block Group. Other clusters of high walking commute percentages are located along the southern part of the study corridor.

Commute by Bicycling

Bicycle commuting is low in most of the city. Clusters of bicycle commuters are located along the southern and eastern parts of the study corridor where commuters bicycling constituted just over 4% of total commuters for that Census Block Group.

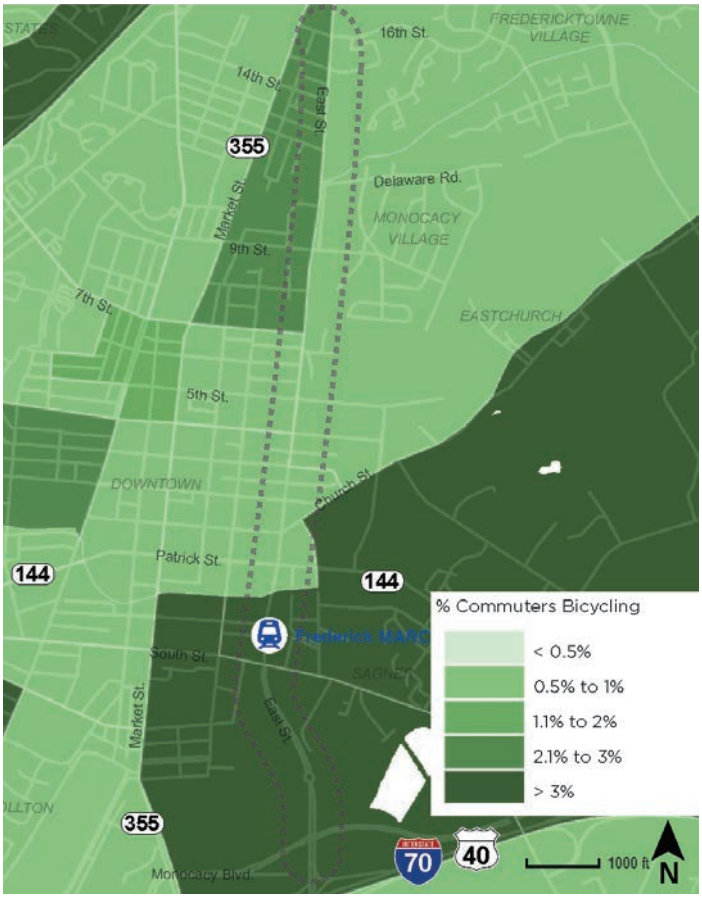


Figure 2.15: Percent of Commuters Bicycling

Commuting by Single Occupancy Vehicle

The majority of Frederick residents commute by single-occupancy vehicle. This map does not include shared vehicle commuting, such as carpool or vanpool. Northeastern areas along the study corridor have a comparatively higher percentage of commuters driving by single-occupancy vehicles, where the percentage of commuters driving alone constitutes around 88% of total commuters for that Census Block Group.

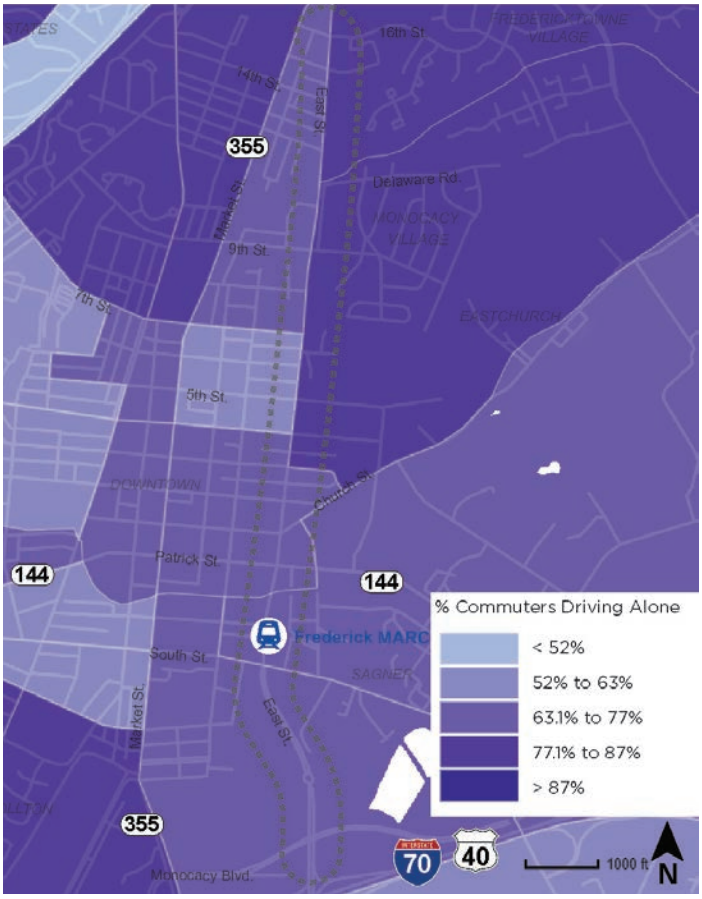


Figure 2.16: Percent of Commuters Driving Alone

Commute by Transit

The study corridor is served by MARC commuter trains and TransIT bus routes. Residents who commute by transit are mostly clustered along the northwestern part of the study corridor, where the percentage of commuters taking transit constitutes just over 6% of total commuters for that Census Block Group. The downtown area and eastern areas along the study corridor near the MARC train station also has a cluster of higher commuters taking transit.

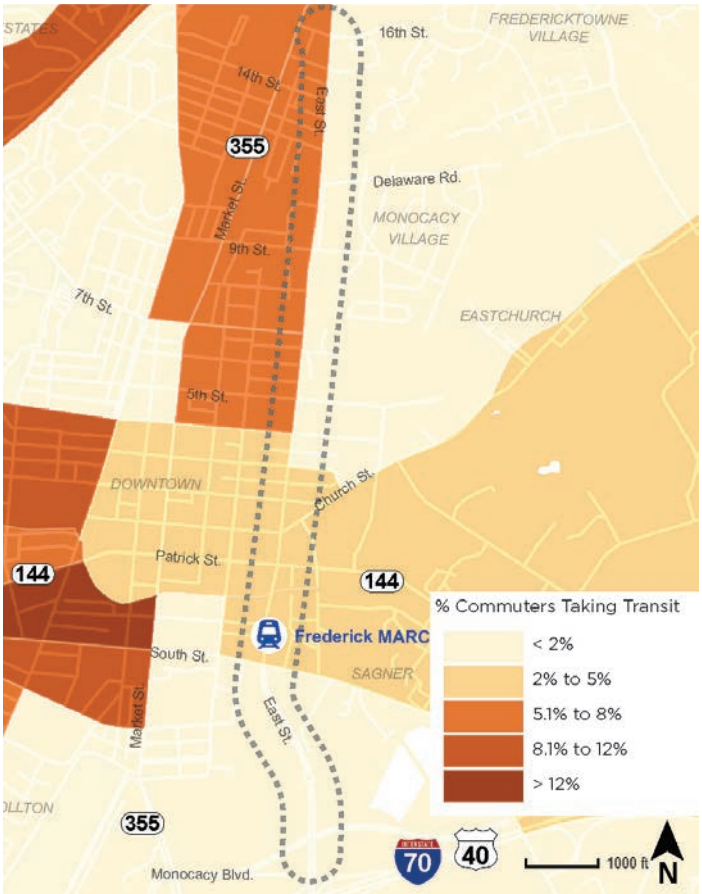


Figure 2.17: Percent of Commuters Taking Transit

Employment Locations

Employment locations are one of the most common origins or destinations of everyday trips. Figure 2.18 maps employment location by the number of jobs based on 2019 LEHD data.

Connecting major employment centers to surrounding areas by comfortable pedestrian and bicycle facilities will provide a healthier commute mode option for people employed in the study corridor.

Frederick's major employment locations are clustered in downtown. Some of the important employers along the East Street corridor include USPS, Frederick County Public Schools, Dairy Maid, and other commercial and industrial establishments between 7th Street and Peters Lane.

As per the City's website the major employers in the city as of April 2019 include the following :

Table 2.1: Major Employers

Business	Number of Employees	Industry Sector
Fort Detrick	9,657	Military, Bioscience, Communications
Frederick County Public Schools	5,856	Public Education
Frederick Memorial Healthcare	2,618	Comprehensive Health Care
Leidos Biomedical Research	2,277	Medical Research
Frederick County Government	2,175	County Government
Wells Fargo Home Mortgage	1,400	Mortgage Loans and Service Center
Frederick Community College	1,115	Two-year College
City of Frederick Government	880	Municipal Government
AstraZeneca	700	Biotech Manufacturing
United Health Care	613	Health Insurance
Stulz ATS	440	Manufacturer of precision air conditioner equipment
YMCA of Frederick County	419	Non-profit, full service fitness and health facility
State Farm	405	Insurance
Wegman's	370	Retail Supermarket
Aldi	350	Retail Supermarket/Distribution Center
Fountain Rock Management	320	Restaurant Management
Maryland School for the Deaf	320	Educational Institute for the Hearing Impaired
Homewood Retirement Community	310	Retirement Community
Morgan Keller	270	General Contractor
Hood College	260	4 year College

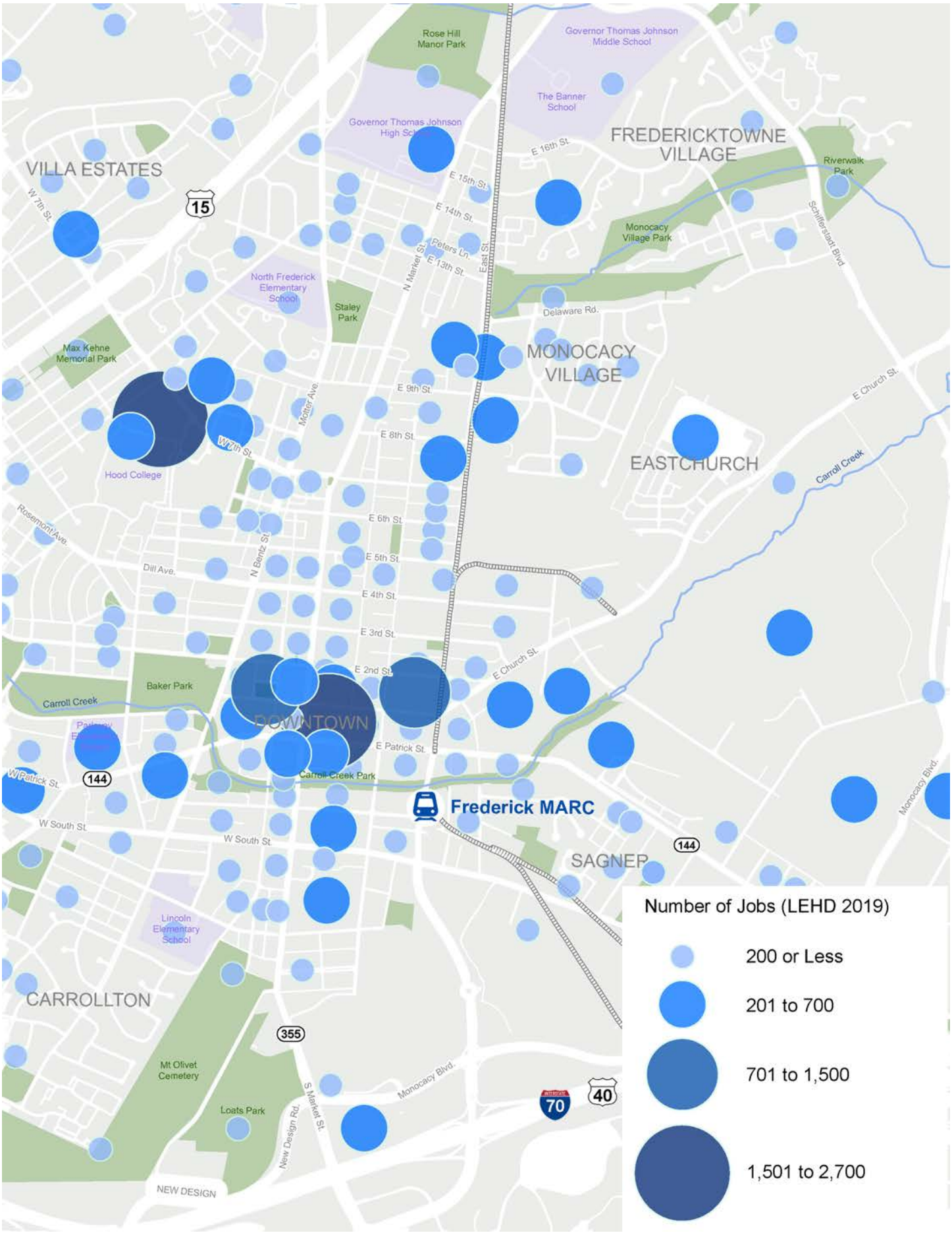


Figure 2.18: Employment Locations
Source: LEHD (2019)

LEHD Data Analysis

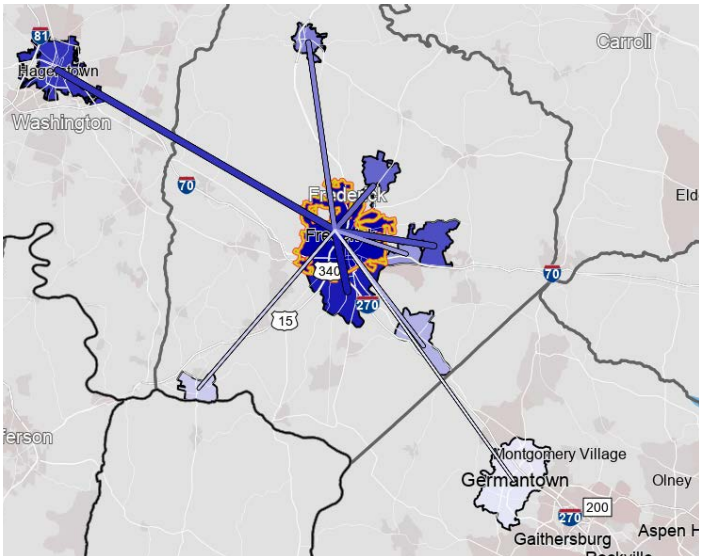


Figure 2.19: Home locations of workers in Frederick (LEHD 2019)

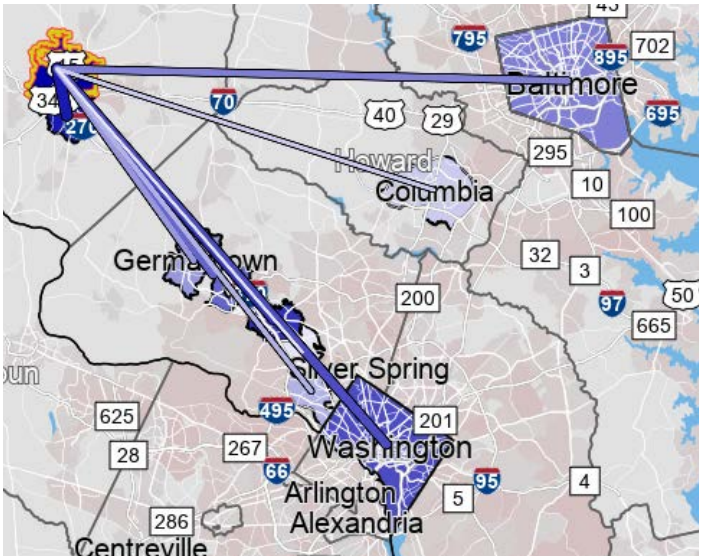


Figure 2.20: Work locations of city residents (LEHD 2019)

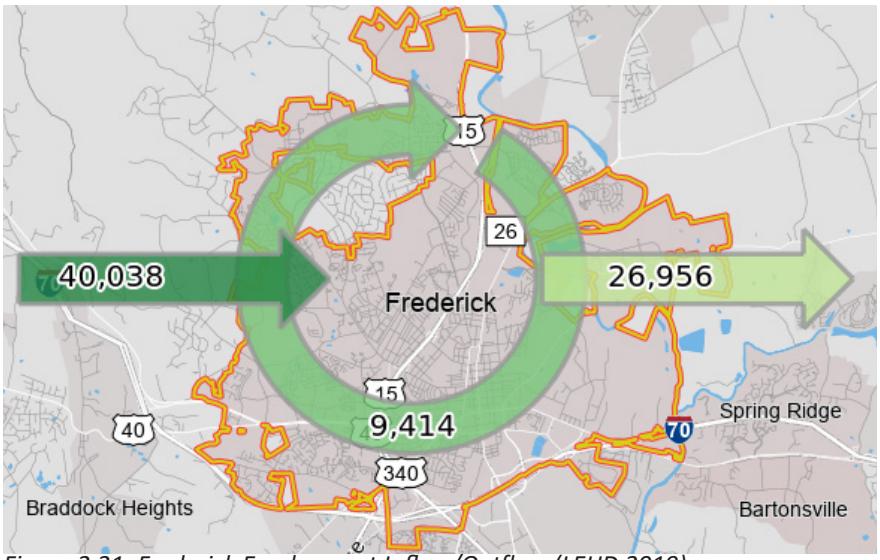


Figure 2.21: Frederick Employment Inflow/Outflow (LEHD 2019)

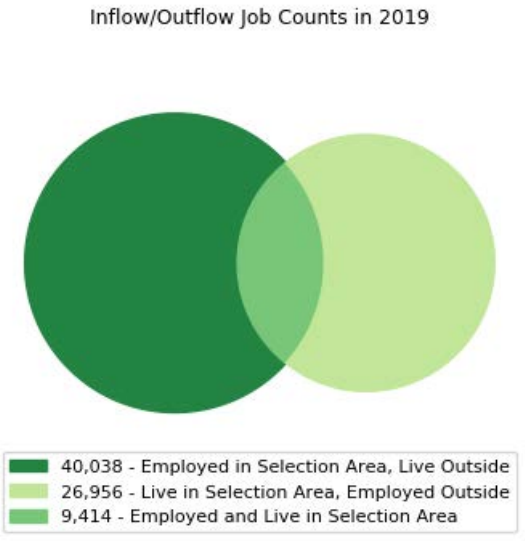
A review of the city's demographic data helped to better understand and serve the needs of all users within the city, especially those who may be disadvantaged.

City-wide Data

As a regional hub, the City of Frederick attracts 40,000 daily workers who reside outside of the city. As the Figure 2.19 displays, the top home locations of the City of Frederick workers include Ballenger Creek, Hagerstown, Linganore, Walkersville, Thurmont, Spring Ridge, Urbana, Brunswick, and Germantown.

Nearly 27,000 residents of Frederick commute outside of the City. As Figure 2.20 displays, the City of Frederick residents commute to Ballenger Creek, Rockville, Washington DC, Gaithersburg, Baltimore, Germantown, Bethesda, and Columbia.

As shown in Figure 2.21, approximately 9,400 Frederick residents live and work in the city.



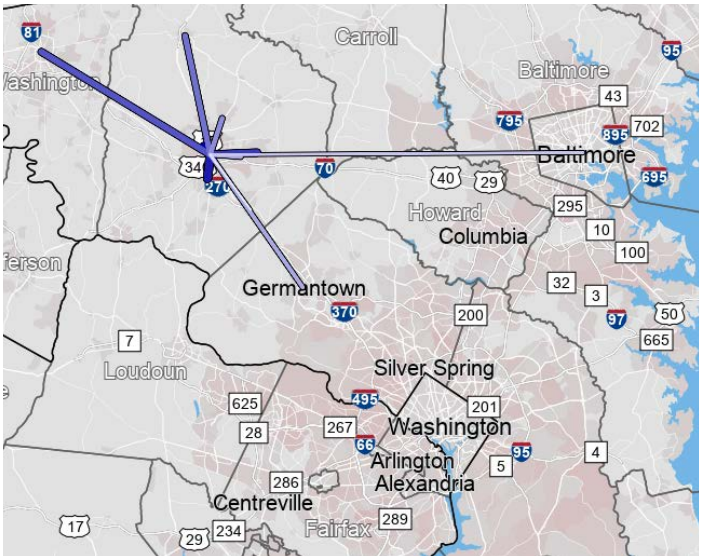


Figure 2.22: Home locations of East Street corridor workers (LEHD 2019)

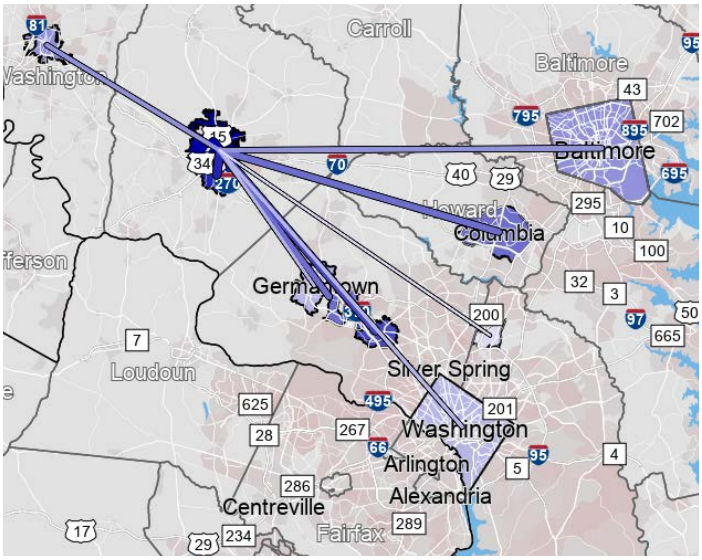


Figure 2.23: Work locations of East Street Corridor residents (LEHD 2019)

Corridor-wide Data

As an economic center in the City of Frederick, the East Street corridor attracts workers from throughout the region. As shown in Figure 2.22, some of the major home locations of the East Street corridor workers include Baltimore City, Germantown, and Hagerstown.

East Street residents also commute throughout the Washington DC-Baltimore region. As shown in Figure 2.23, some of the major work locations of the East Street corridor residents include Baltimore City, Washington DC, Germantown, Gaithersburg, and Hagerstown.

As shown in Figure 2.24, just over 4,800 workers commute in the study corridor for work, while a little over 1,300 residents travel outside the study corridor for work. Around 56 residents live and work along the study corridor.

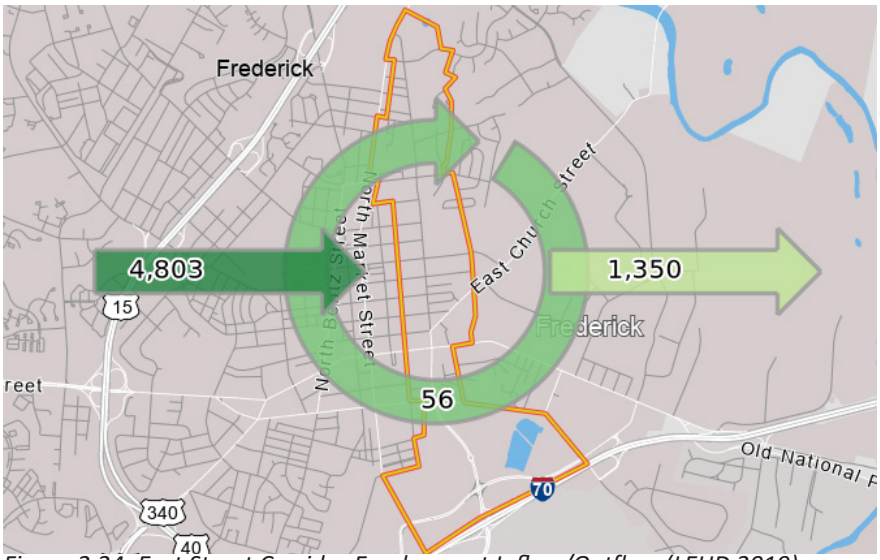


Figure 2.24: East Street Corridor Employment Inflow/Outflow (LEHD 2019)

Economically Disadvantaged Populations

A review of the city's demographic data helped to better understand and serve the needs of all users within the city, especially those who may be disadvantaged.

Households in Poverty

Percentage of total households experiencing poverty are concentrated in the northwestern part of the study area. Almost 15% of the total households in that Census Block Group are experiencing poverty. In general, northern and eastern parts of the study area have a higher concentration of households in poverty.

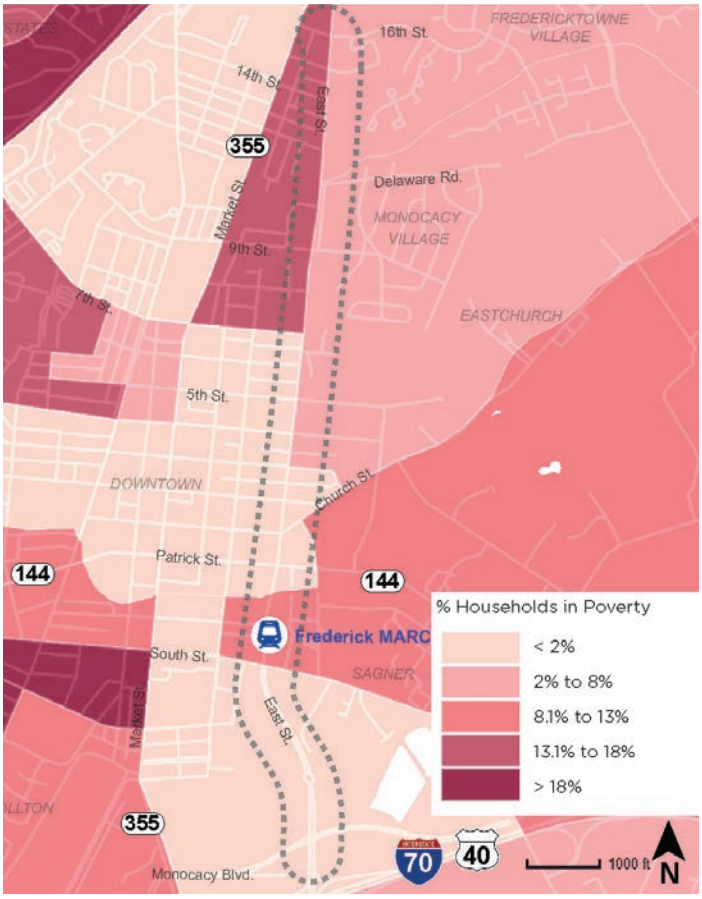


Figure 2.25: Percent of Households in Poverty

Households without Cars

Many households do not have access to cars. These household residents depend on walking, biking, or transit to travel. The majority of households without cars are clustered in the northern parts of the study area. As high as 15% to 30% of households do not have a car in Census Block Groups in the northern parts of the study area.

Census Block Groups that have high percentages of households without cars display some correlation with households in poverty.

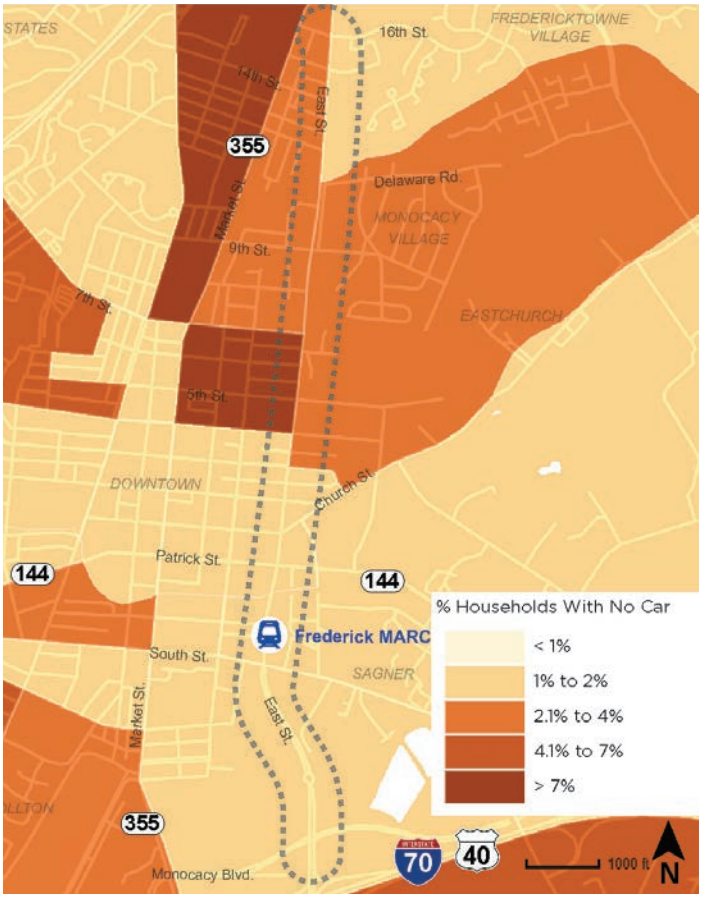


Figure 2.26: Percent of Households with No Car

Equity Emphasis Areas

Metropolitan Washington Council of Governments (MWCOG) has developed Equity Emphasis Areas for the entire Washington DC region as part of Visualize 2045 plan.

Equity Emphasis Areas are small geographic areas that have significant concentrations of low-income, minority populations, or both. This analysis is based on June 2018 tract-level Census data.

As per this analysis, Equity Emphasis Areas have been identified in the southern part (south of Church Street and Patrick Street, and northwest area (north of 7th Street and west of East Street) of the study corridor.

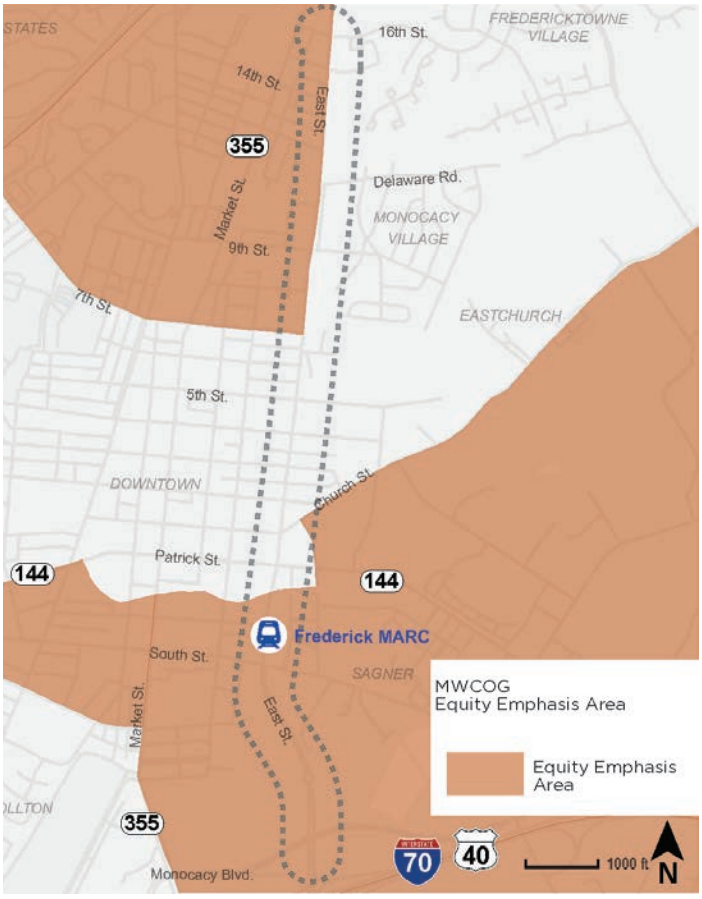


Figure 2.27: MWCOG Equity Emphasis Areas

View of East Street looking north towards 5th Street. This segment lack sidewalks on both sides of the street. A spur of the abandoned rail tracks crosses the 'Sharrow' or shared outside travel lane and is a safety concern for people on bicycles.

Multi-modal Transportation Analysis

East Street plays many roles for the different users of the corridor. As one of three north-south roadways connecting Frederick with I-70, East Street is an important freight route for various commercial and industrial businesses in the study corridor. It's also an important local connection to schools and residential neighborhoods in Frederick. This section maps and analyzes multi-modal transportation conditions.

Pedestrian Facilities

Sidewalks:

Although East Street has continuous sidewalks on both sides for the southern half of the corridor, there are significant sidewalk gaps in the northern half of the corridor. There are no sidewalks on the west side of East Street between Laboring Sons Alley (just north of 5th Street) to 9th Street and from about 200 feet north of 16th Street to Market Street. In addition, there are no sidewalks on the east side between 5th Street to Peters Lane and from 15th Street to Market Street. Apart from the sidewalks, there is an 12 feet-wide shared use path from Peters Lane to 15th Street on the east side.

Crossing Locations:

Most signalized crossings have marked crosswalks on all sides, except the 5th Street intersection (no marked crosswalks) and the 9th Street intersection (no marked crosswalks on the southern and eastern legs). Many signalized and unsignalized intersections do not have ADA-compliant pedestrian ramps and crosswalk markings.

The frequency of marked crossings and signalized intersections is high in the downtown area between South Street and 4th Street. The average spacing between signalized intersections and marked crosswalks in this segment is 450 feet. However, signal spacing and marked crosswalk spacing are significantly higher in the northern half of the study corridor between 4th Street and Market Street. The average spacing between marked crosswalks in this segment is 1,530 feet. The roundabout located about halfway between Monocacy Boulevard and South Street is the only location with marked crosswalks in this segment. The average spacing between marked crosswalks from Monocacy Boulevard and South Street is 1,220 feet.

The City's CIP includes two new traffic signals at All Saints Street and East Street intersection across from the MARC train station and at Peters Lane and East Street intersection.

Figure 2.28 shows sidewalk gaps, signal locations, and marked crosswalks.

No sidewalks are present at the Dairy Maid location between 7h and 8th Street. Pedestrian safety and comfort are further jeopardized by the circulation pattern of Large trucks backing into the loading dock.

Sidewalks in the downtown area between Patrick Street and 4th Street are narrow.

Figure 2.28: Sidewalk Gaps & Pedestrian Crossing Locations
Source: City of Frederick and Google Maps

Bicycle Facilities

Existing

Existing bicycle facilities along East Street are limited to 'Sharrows' (Pavement marking indicating shared lanes) from the MARC train station to 7th Street and a shared use path on the east side from Peters Lane to 15th Street. These facilities were built as per Phase 1, and 2 of the East Street Rails with Trail Plan developed in 2013. Sharrows on multi-lane roads like East Street do not constitute as a low-traffic stress bicycle facility. They are not comfortable to ride for children or interested but concerned adults. In addition, the existing abandoned train tracks along East Street cross across the shared outside travel lane at 8th Street and East Street intersection and just south of 5th Street and East Street intersection. These train track crossings present a safety concern for people on bicycles.

A couple of cross streets to the East Street study corridor also have existing bicycle facilities. Market Street has a two-way separated bike lane on the north side from the Rose Hill Manor Museum driveway to the Banner School driveway. 7th Street has sharrows, west of East Street. Off-street trails on either side of Carroll Creek, as part of the linear park, cross East Street between All Saints Street and Patrick Street.

Planned/Proposed

Phase 2 of the East Street Rails with Trails plan includes building a shared use path from 8th Street to Market Street on the east side. In addition, Phases 3, 3A, and 4 of the East Street Rails with Trail Plan recommended extending the off-street trail north of Market street to Walkersville and Woodsboro.

The City is currently finalizing the 'Let's Move Frederick,' a comprehensive bicycle & pedestrian plan. Several bicycle facilities have been proposed as part of this plan. As per this plan, separated bike lanes have been proposed from Monocacy Boulevard to 8th Street. This recommendation will replace the existing sharrows from the MARC station to 7th Street. Bicycle facilities along several cross-streets have been proposed as well. The following list summarizes planned and proposed bicycle facilities:

Planned:

- Monocacy Boulevard: Shared Use Path
- Market Street: Separated Bike Lanes

Proposed:

- South Street: Separated Bike Lanes
- Patrick Street: Separated Bike Lanes
- Church Street: Separated Bike Lanes
- 2nd Street: Buffered Bike Lane
- 4th Street: Separated Bike Lanes
- 5th Street: Separated Bike Lanes
- 7th Street: Separated Bike Lanes
- 8th Street: Bike Boulevard
- 9th Street: Buffered Bike Lane
- 13th Street: Bike Boulevard
- 16th Street: Separated Bike Lanes

Figure 2.29 maps the existing, planned, and proposed bicycle facilities.

Existing sharrows on East Street between the MARC station and 7th Street.

Existing shared use path on the east side of East Street between Peters Lane and 15th Street.

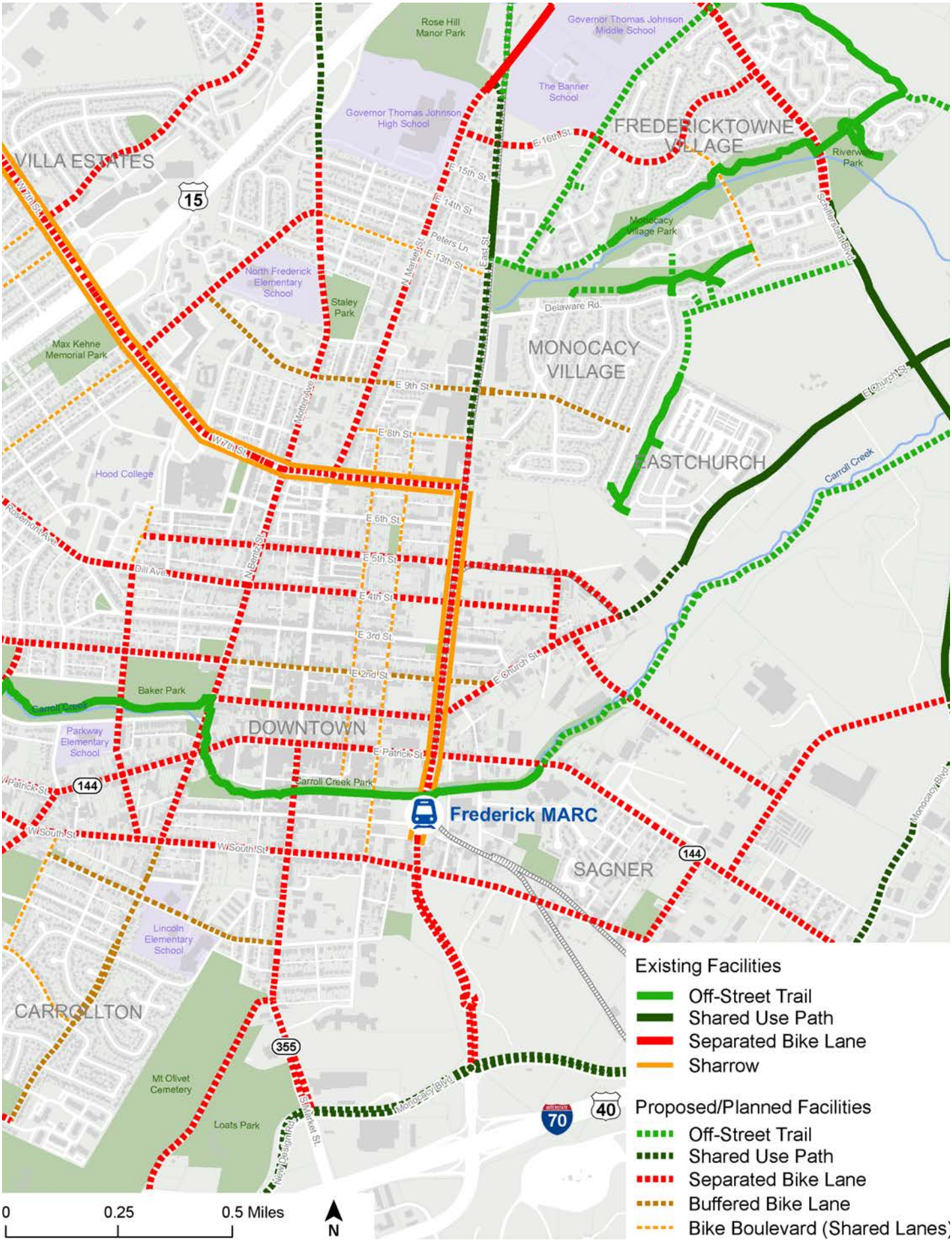


Figure 2.29: Existing and Proposed/Planned Bicycle Facilities
Source: City of Frederick

Transit Facilities

The East Street study corridor is served by the TransIT bus transit system, MTA Commuter buses, and MARC trains. The following section summarizes transit services by each system.

TransIT Network

TransIT provides public transit throughout Frederick County, MD. Ten Connector Routes operate in Frederick City and urbanized areas of Frederick County. Commuter Shuttles and two Meet-the-MARC shuttles operate each weekday. TransIT-plus is a demand response paratransit service for senior citizens and people with disabilities. Six Shuttle and seven Connector routes service the Transit Center next to the MARC train station on the East Street study corridor.

Bus stops along the study corridor are located at the following locations:

- MARC Train Station/Transit Center
- Church Street
- 7th Street
- 9thStreet
- Delaware Road
- Peters Lane
- 16th Street

MTA Commuter Bus

Route 515 - Frederick-Shady Grove/Rock Spring MTA Commuter Bus connects North Frederick Park & Ride located at Monocacy Boulevard and Willow Road to Shady Grove WMATA MetroRail station on the Red line with one of the stops being Frederick MARC station. Four buses run on weekday mornings from 5:10 AM, 5:40 AM, 6:10 AM, and 6:45 AM. Five buses run on weekday afternoons and evenings from 1:06 PM, 4:06 PM, 4:36 PM, 5:06 PM, and 5:36 PM.

MARC Commuter Train

Brunswick - Washington MARC train serves the Frederick MARC station on the study corridor. One outbound train at 6:05 AM and one inbound train at 5:20 PM runs on weekdays between Frederick MARC station and Union Station in Washington DC.

Figure 2.30 maps the existing transit network.

Frederick MARC train station and bus transit center.
Source: www.longandfoster.com

Frederick MARC train tracks and station platform.
Source: Art Anderson

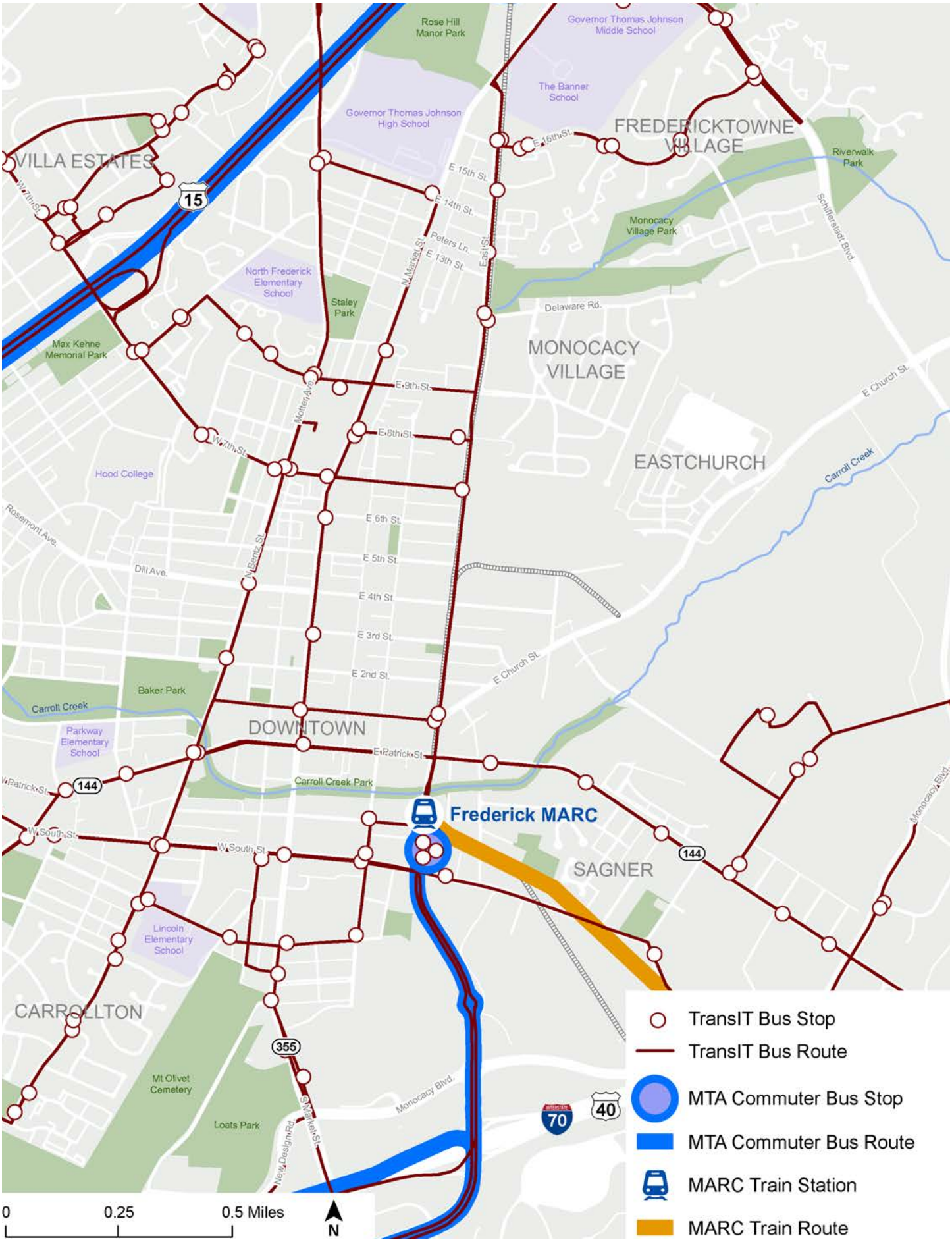


Figure 2.30: Transit Network
Source: City of Frederick and MTA

Vehicular Circulation & Street Network

Functional Classification and Posted Speed

East Street is classified as a minor arterial roadway, with a posted speed of 35 mph between Monocacy Boulevard and South Street and 25 mph between South Street and Market Street. Figure 2.31 maps existing posted speeds.

Most intersections along the East Street Corridor are two-way stop-controlled (12) or signalized (11), except a stub roundabout between Monocacy Boulevard and South Street. East Street is a north-south corridor serving bi-directional vehicular traffic, crossed by five one-direction roads connecting downtown Frederick, between Patrick Street and 4th Street. The one-way network is displayed in Figure 2.32 and is an important aspect of traffic circulation between downtown Frederick and East Frederick. East Street forms the eastern edge of the downtown street grid. The street network grid does not extend, and the overall street connectivity is low on the west side of East Street. Figure 2.33 illustrates functional classification and traffic control devices.

Average Annual Daily Traffic (AADT)

AADT volume data was collected from MDOT-SHA's database. Along the study corridor, the AADT north of Monocacy Boulevard was recorded at 17,340, while just south of Market Street was recorded at 5,530 vehicles in 2019.

Previous studies have recommended a Road Diet along East Street. A Road Diet is generally described as "removing travel lanes from a roadway and utilizing the space for other uses and travel modes such as bicycle and pedestrian facilities.

Recommendations for East Street have included a five-lane to three-lane conversion between South Street to Church Street and a four-lane to three-lane conversion between 4th Street to 9th Street.

As per the Federal Highway Administration (FHWA) Road Diet Informational Guide, the AADT provides a good first approximation on whether or not to consider a Road Diet conversion. The FHWA advises that roadways with an AADT of 20,000 vehicles per day or less may be good candidates for a Road Diet and should be evaluated for feasibility. Further detailed traffic analysis to determine the operational feasibility of Road Diet along East Street may be necessary. This may include analyzing peak hour traffic volumes by direction and considering other factors such as signal spacing, turning volumes at intersections, and other access points.

Road Diet along East street may be necessary to implement separated bike lanes as proposed in the comprehensive bicycle & pedestrian plan without major private property or utility impacts.

Typical Sections

There is no one typical section for East Street. The street section varies significantly across the length of the study corridor. Figures 2.34 to 2.45 illustrate the typical sections in various segments along the study corridor.

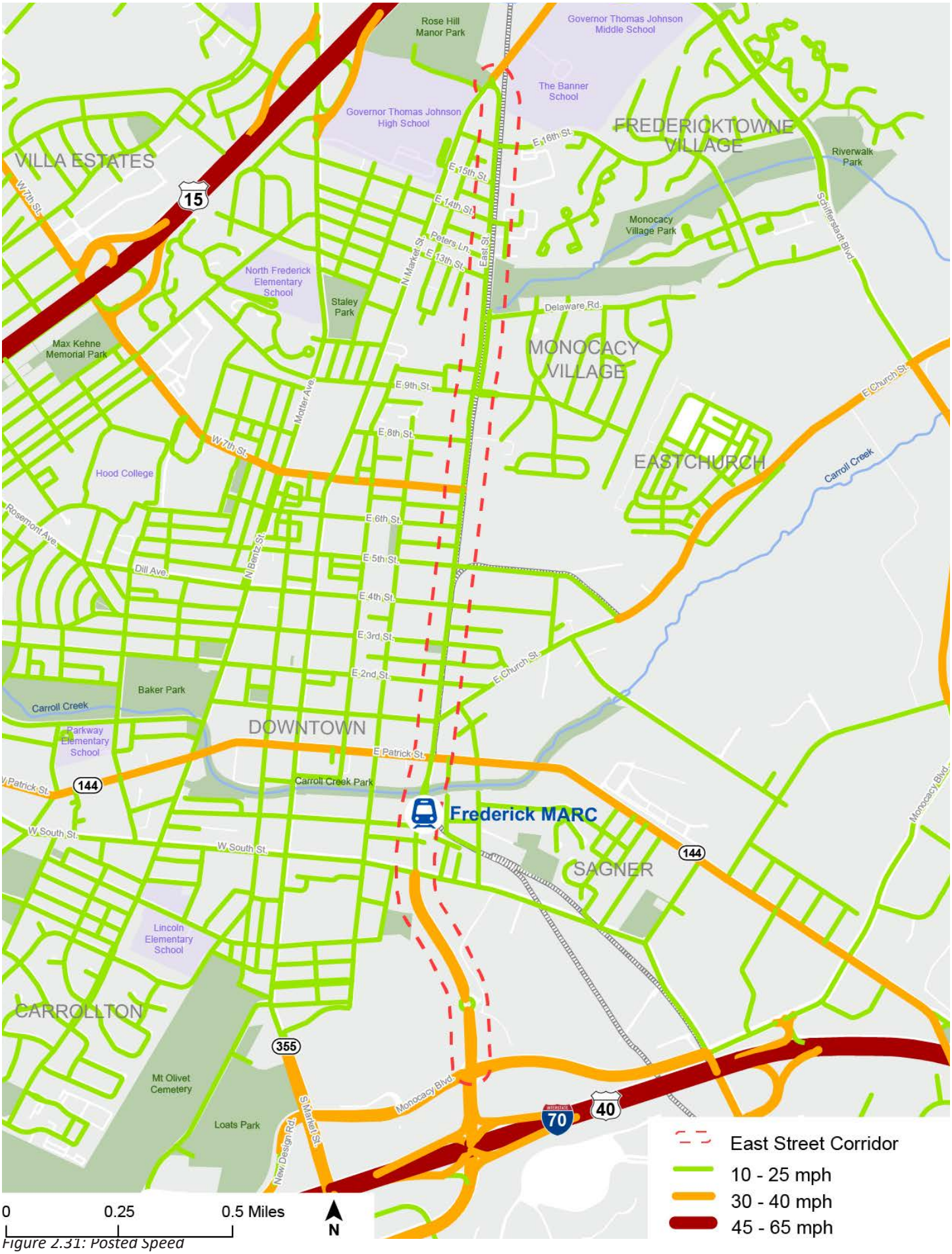


Figure 2.31: Posted Speed
Source: City of Frederick

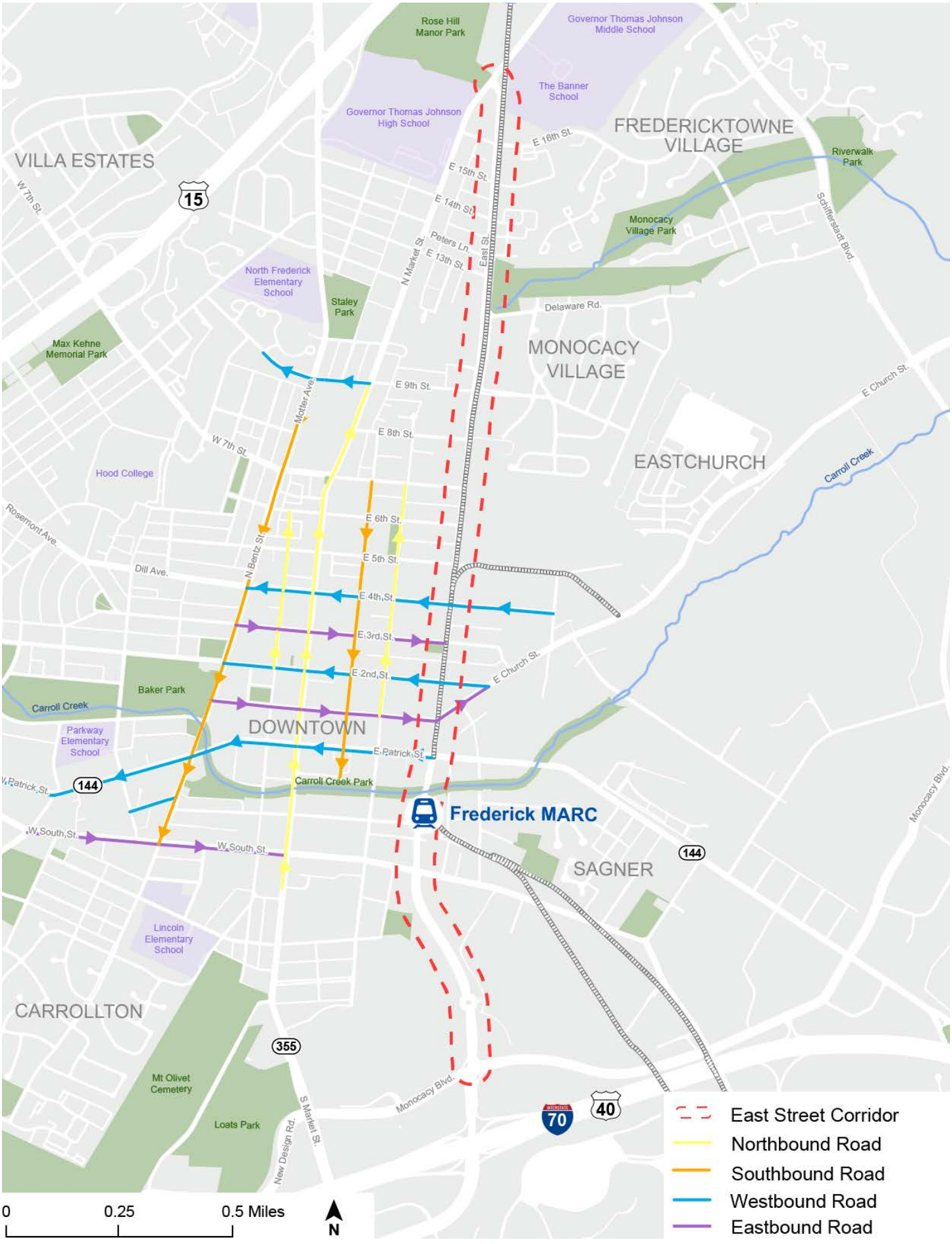
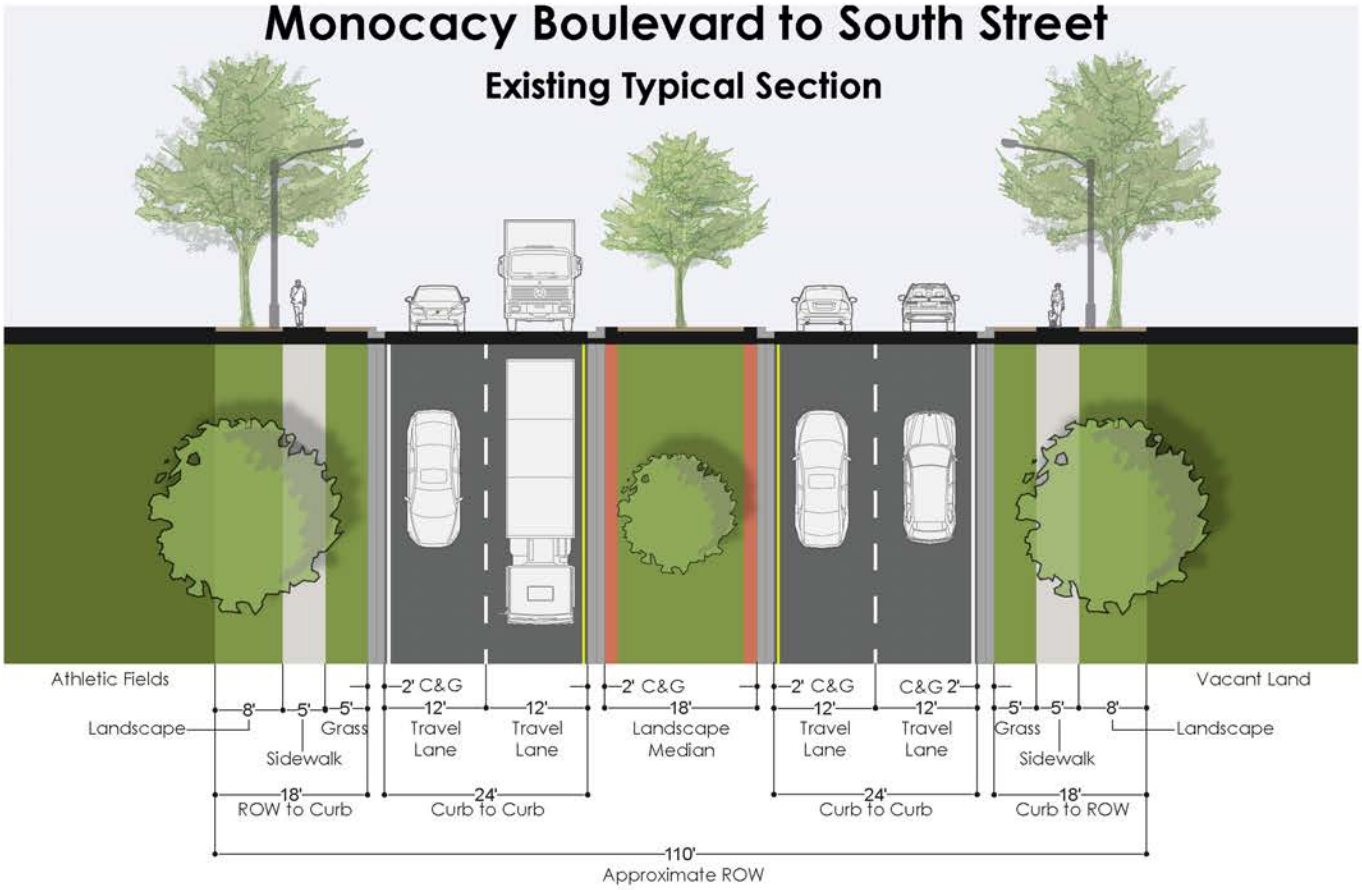


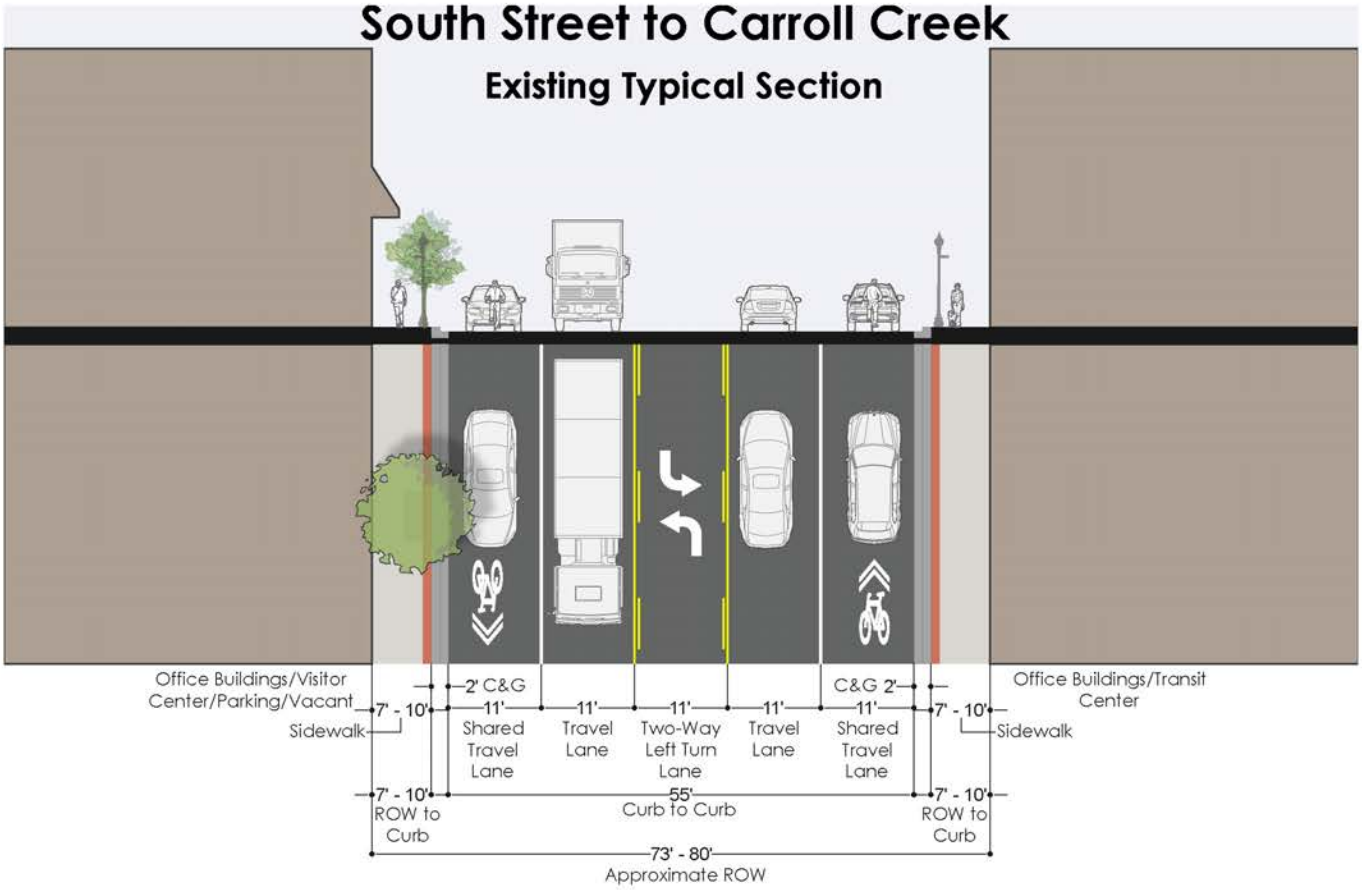
Figure 2.32: Traffic Direction
Source: City of Frederick

Figure 2.33: Roadway Functional Classification & Traffic Control Devices
Source: City of Frederick



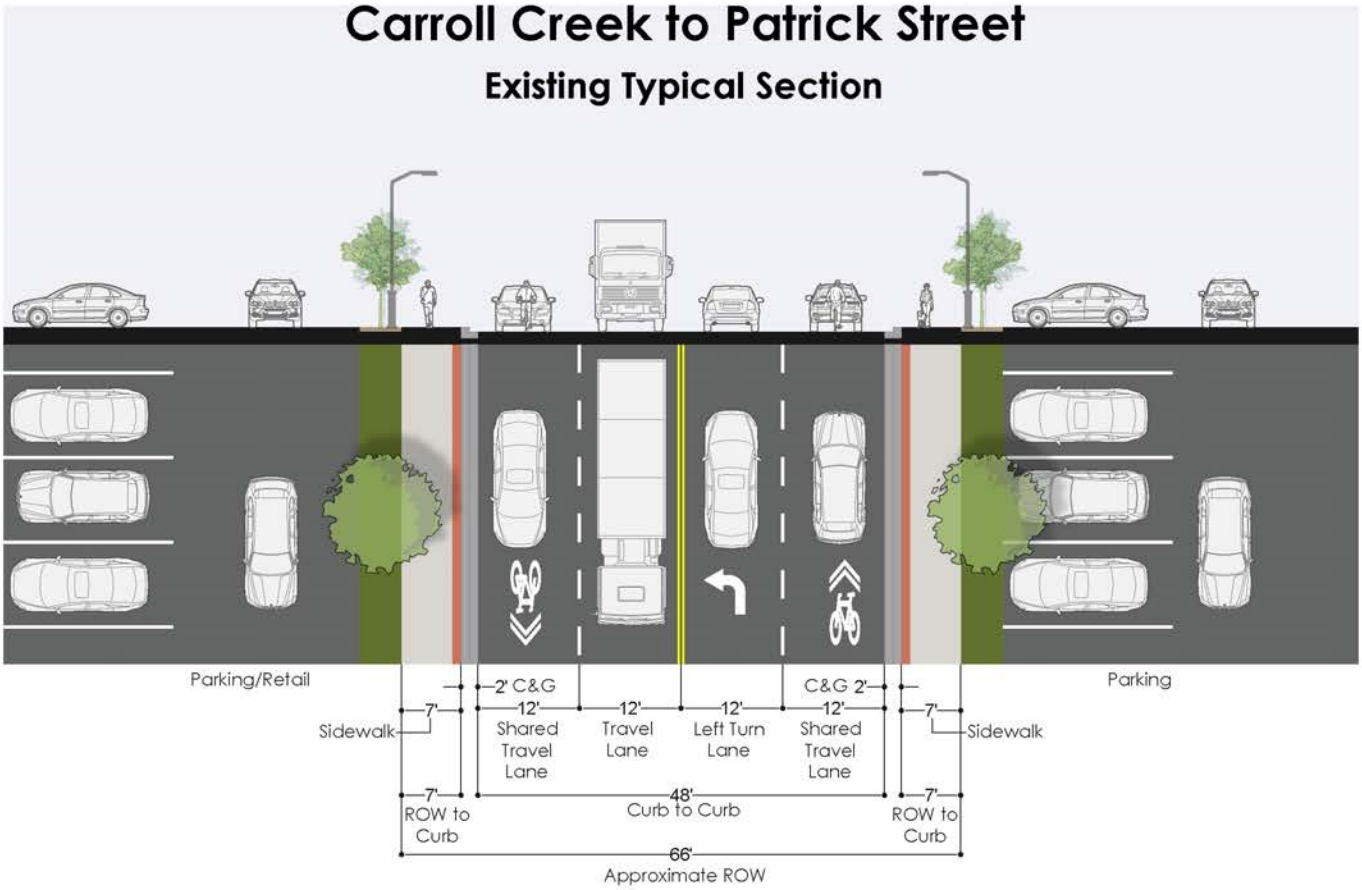
Source: Google Earth Pro Streetview

Figure 2.34: Existing Typical Section - Monocacy Boulevard to South Street



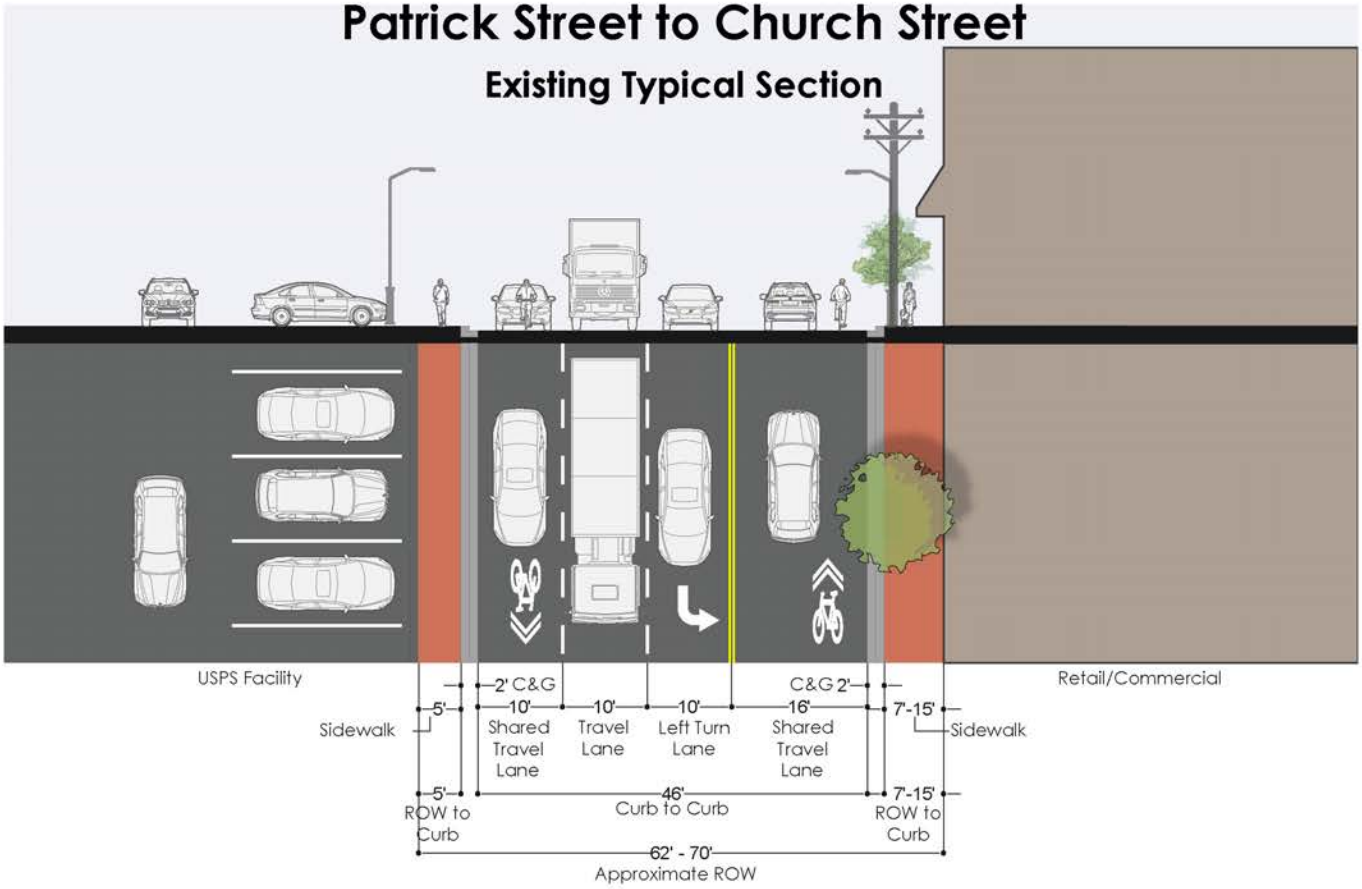
Source: Google Earth Pro Streetview

Figure 2.35: Existing Typical Section - South Street to Carroll Creek



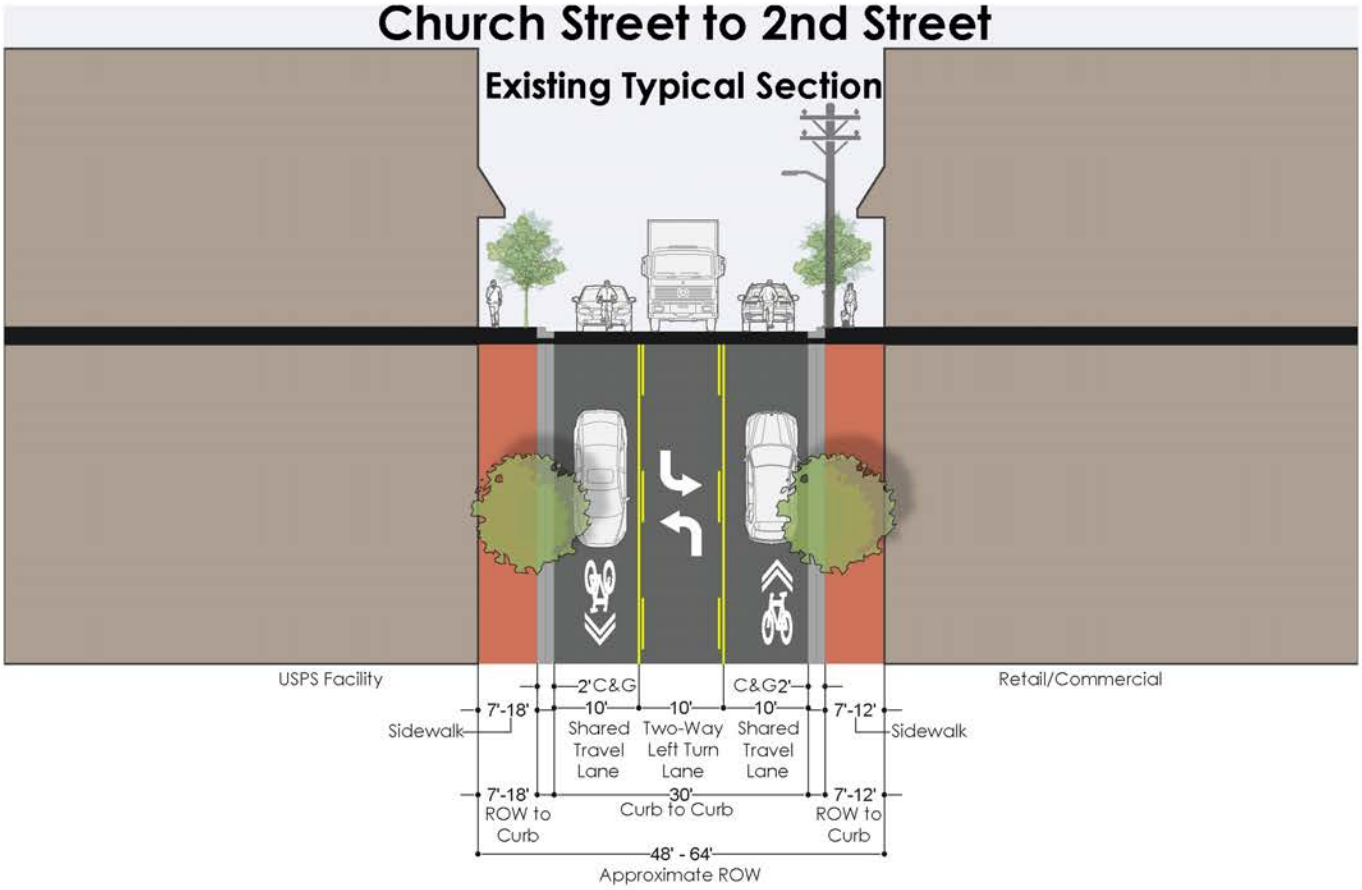
Source: Google Earth Pro Streetview

Figure 2.36: Existing Typical Section - Carroll Creek to Patrick Street



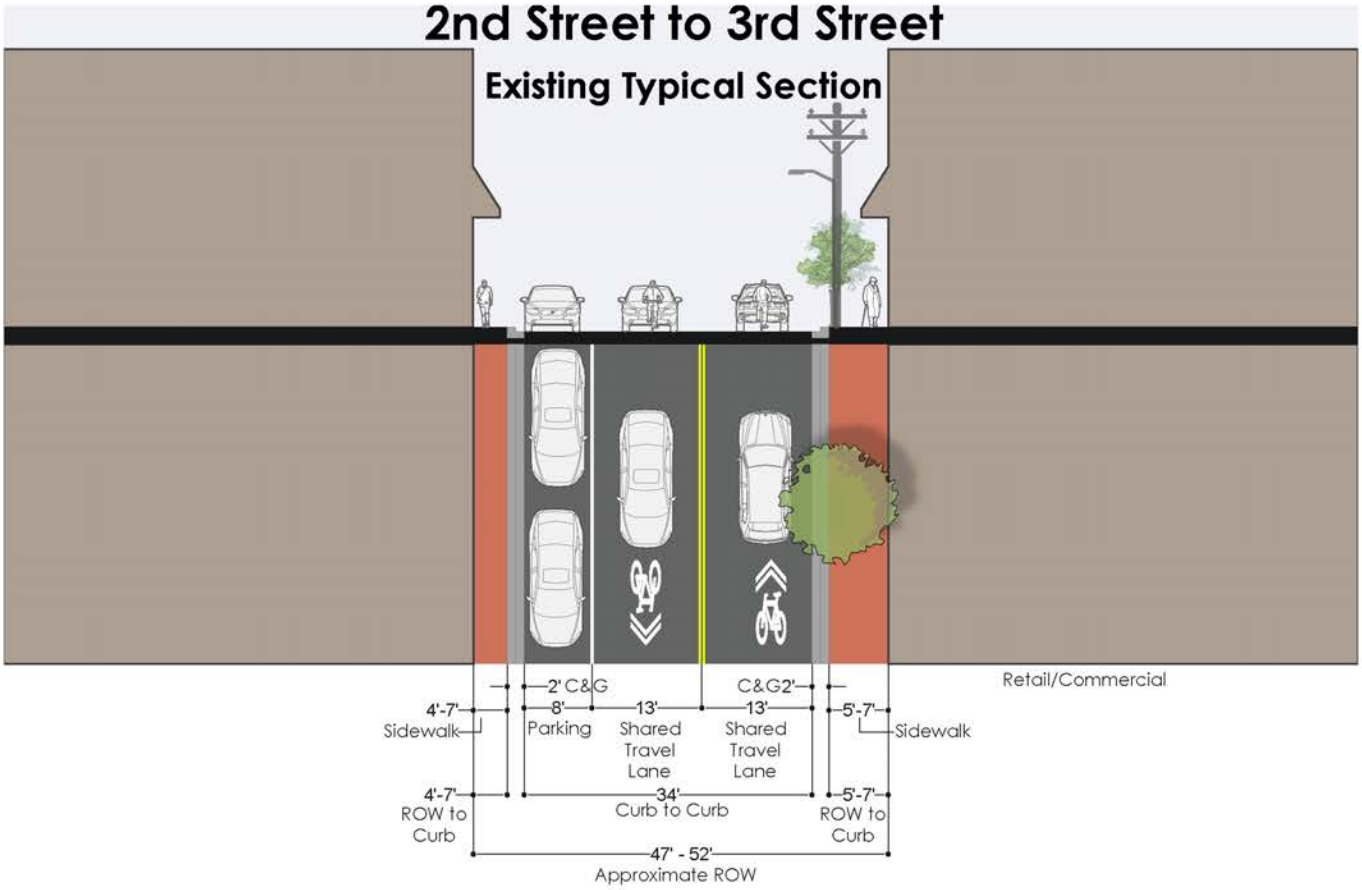
Source: Google Earth Pro Streetview

Figure 2.37: Existing Typical Section - Patrick Street to Church Street



Source: Google Earth Pro Streetview

Figure 2.38: Existing Typical Section - Church Street to 2nd Street

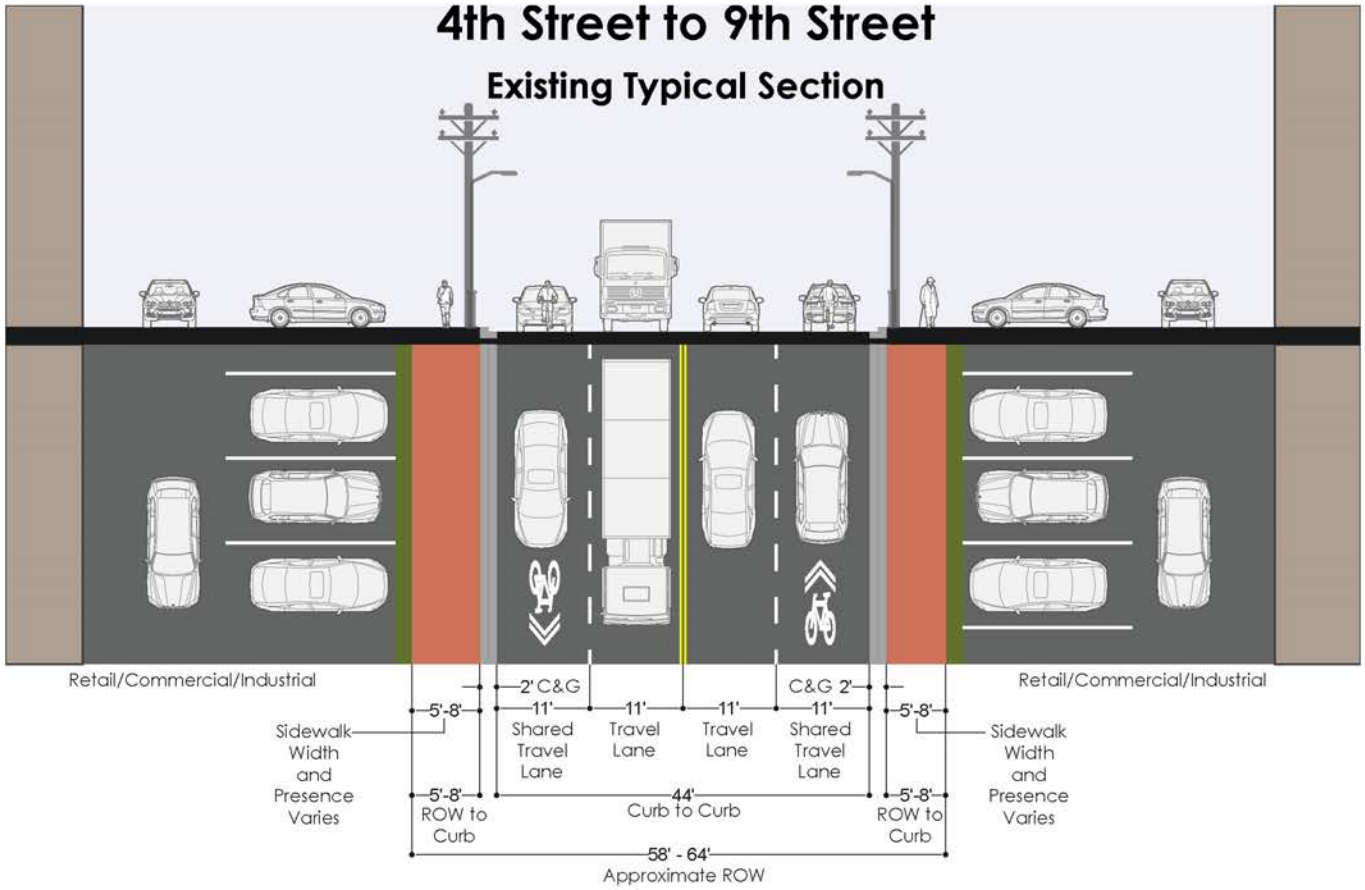


Source: Google Earth Pro Streetview

Figure 2.39: Existing Typical Section - 2nd Street to 3rd Street

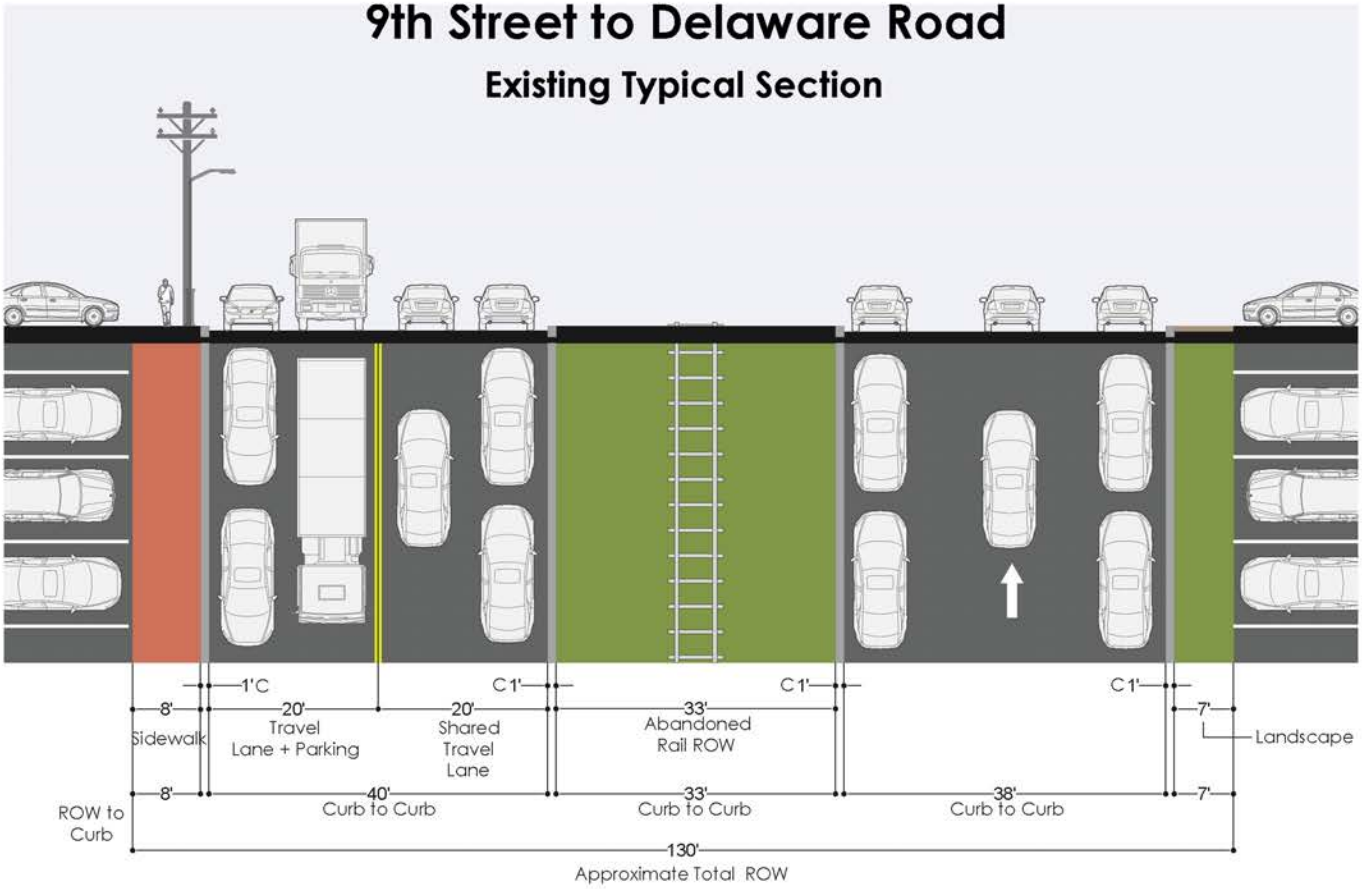
Source: Google Earth Pro Streetview

Figure 2.40: Existing Typical Section - 3rd Street to 4th Street



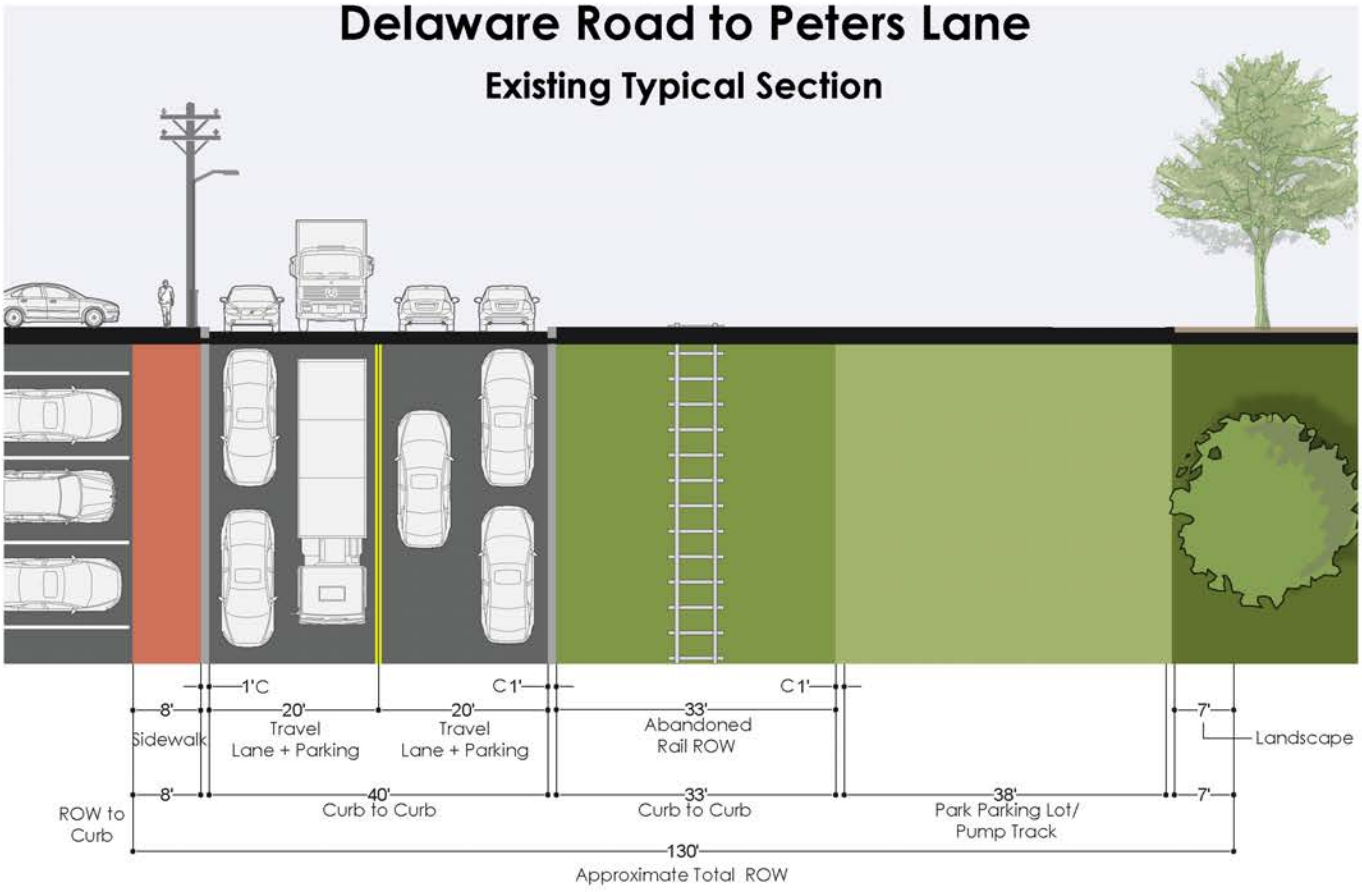
Source: Google Earth Pro Streetview

Figure 2.41: Existing Typical Section - 4th Street to 9th Street



Source: Google Earth Pro Streetview

Figure 2.42: Existing Typical Section - 9th Street to Delaware Road



Source: Google Earth Pro Streetview

Figure 2.43: Existing Typical Section - Delaware Road to Peters Lane

Source: Google Earth Pro Streetview

Figure 2.44: Existing Typical Section - Peters Lane to 15th Street

Source: Google Earth Pro Streetview

Figure 2.45: Existing Typical Section - 15th Street to Market Street

Safety

As displayed in Figure 2.46, between 2015 - 2020, there were two pedestrian crashes along the East Street Corridor and no crashes involving bicycles. These crashes occurred in locations with adequate pedestrian facilities and higher traffic volumes. At the intersection of Patrick St/East Street, the single-vehicle crash resulted only in property damage. At the intersection of Commerce St/ East Street, the single-vehicle crash resulted in the death of the person walking.

There were 70 crashes along the East Street Corridor between 2015 – 2020, with one crash resulting in a fatality, 17 crashes resulting in injury, and 39 crashes resulting only in property damage. Thirteen crashes were recorded without a report on severity. Crashes by severity are displayed in Figure 2.47. Crashes cluster near the intersections of East Street with South St, Patrick St, and Church St. Common crash types include angle (13), fixed object (12), head on (6), rear end (15), sideswipe (8), and turning (4). There were two pedestrian crashes, 8 'other' crashes, and two unknown crash types. Crashes by type are displayed in Figure 2.48.

The crash types figure shows the clustering of crashes at intersections along East Street. At the roundabout and East Street, three fixed object crashes at the southwest quadrant of the intersection indicate that drivers are progressing through the roundabout too quickly and then are striking signposts or curbs upon exiting the roundabout.

The three sideswipe crashes between the roundabout and South Street indicate that drivers are passing one another in an unsafe manner. Between All Saints Street and 7th Street, the predominant crash types are turning crashes, rear-end crashes, and angle crashes. These crash types indicate that vehicular queues are forming along East Street and its cross-streets, that are resulting in rear-end crashes, where drivers collide with a queue; as well angle and turning crashes, where drivers are accepting more risk in executing turns due to travel delays.

North of 7th Street, as the corridor transitions to more industrial uses, there are fewer crashes overall. Of the crashes recorded, most are turning or fixed object crashes, which indicate vehicles, whether freight or passenger, have difficulty accessing the businesses present along the corridor.

Additionally, the head-on crashes are sprinkled along the entire corridor. These crashes could indicate a need for more visible pavement striping or for better-aligned lanes at intersections.

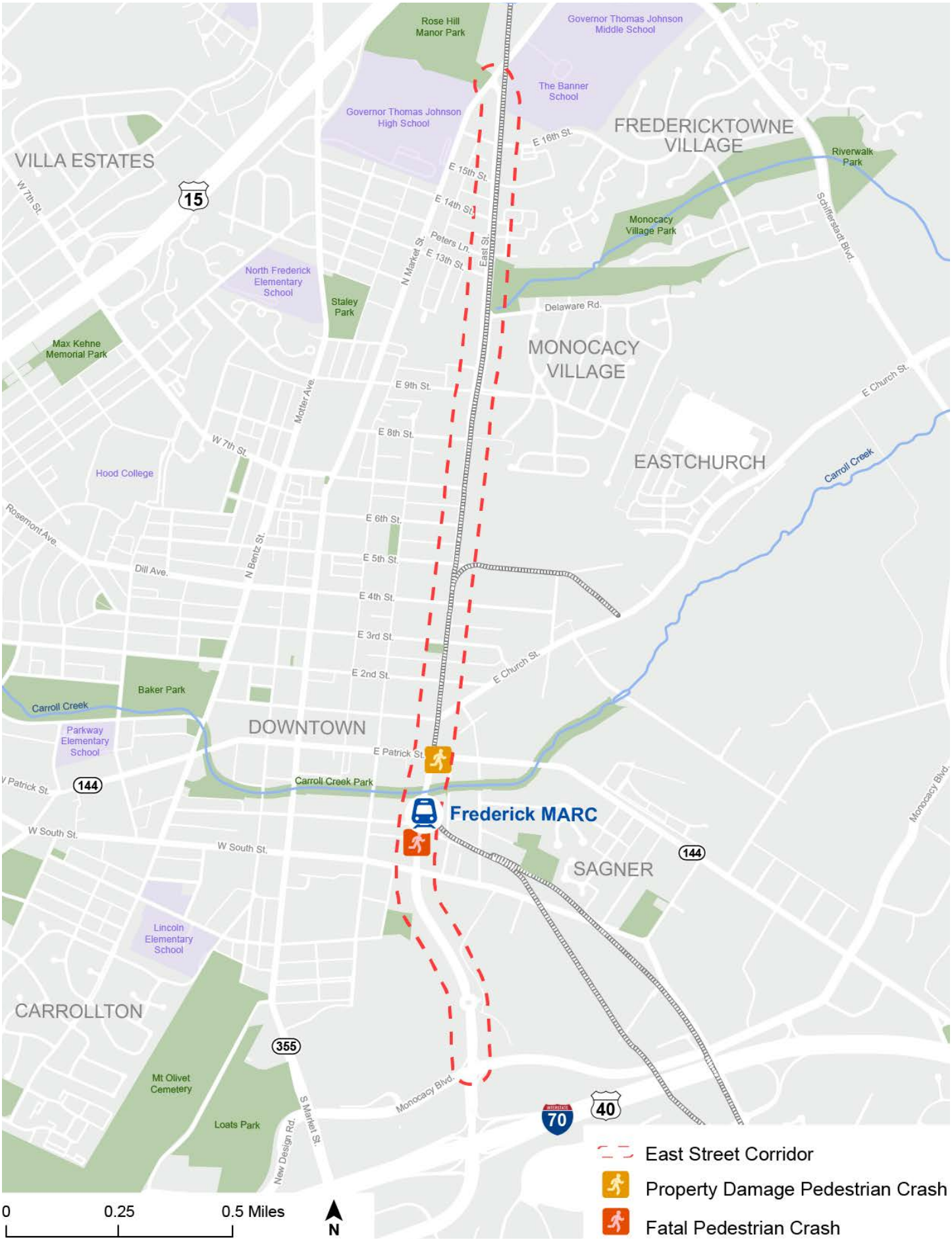


Figure 2.46: Bicycle & Pedestrian Crashes
Source: City of Frederick

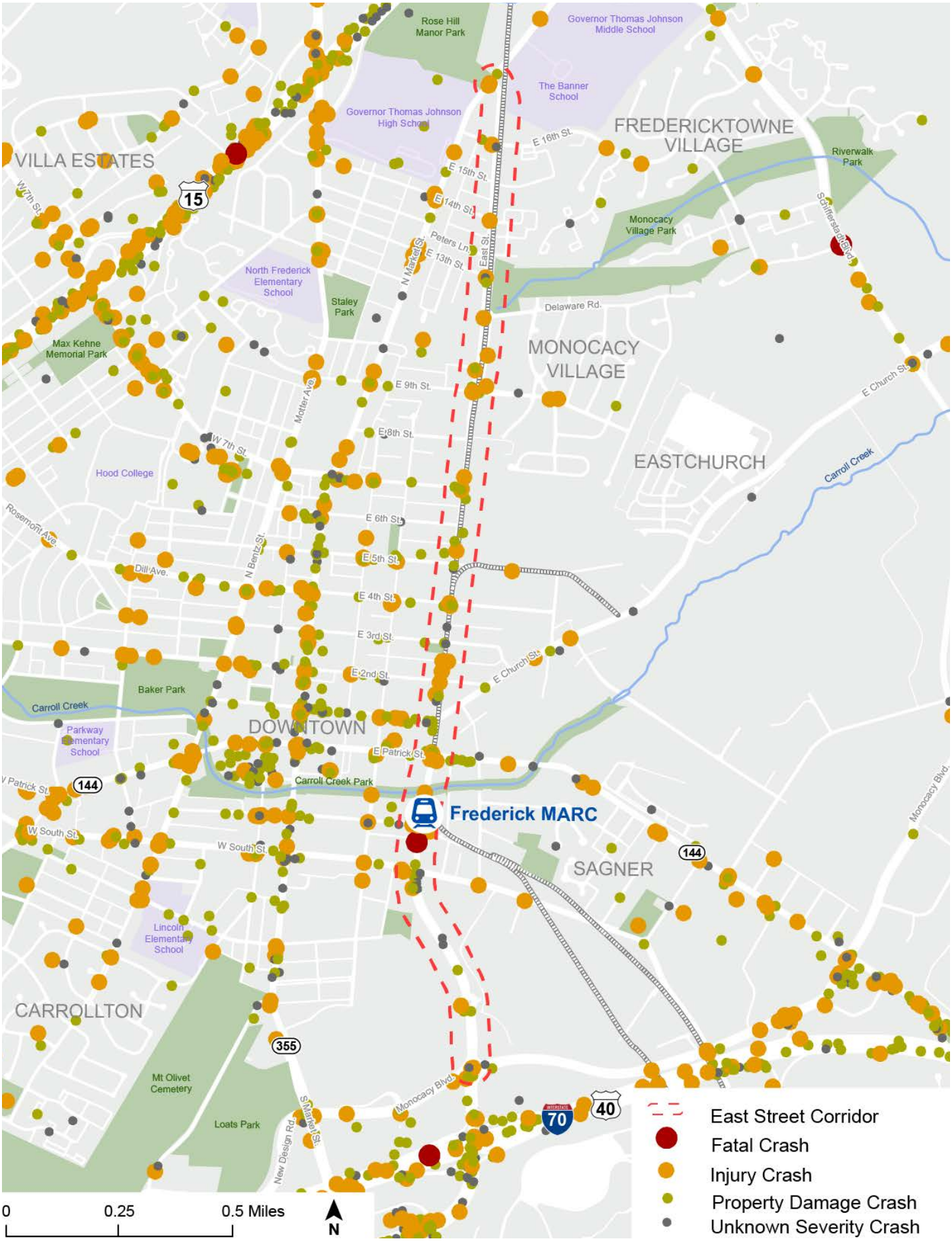


Figure 2.47: All Crashes by Severity
Source: City of Frederick

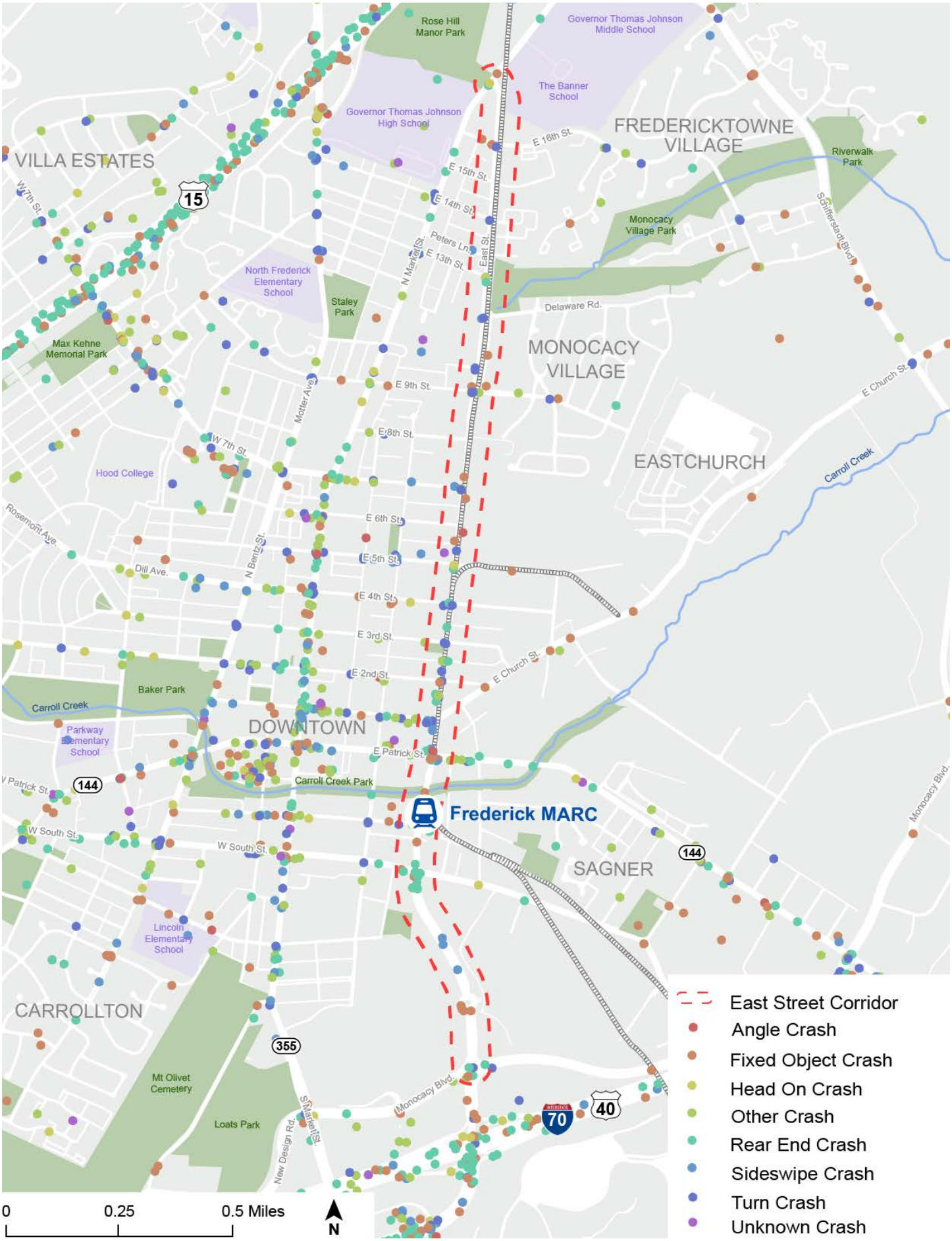


Figure 2.48: All Crashes by Type
Source: City of Frederick

Urban Design Analysis

Gateways & Thresholds

East Street is a notable North-South corridor that connects two major community thoroughfares- 1) Monocacy Boulevard and 2) Market Street. The convergence of East Street with these corridors creates important entry points or gateways that establish a sense of arrival. A third gateway is located at the intersection of East Street and E. Patrick Street. Patrick Street is a "Main Street" of Downtown and serves as a gateway from East Street into the district.

Supplementing gateways are several thresholds at key corridors that intersect East Street. These corridors serve as major connectors that unify adjacent neighborhoods, districts, and community amenities. Thresholds are often supported by buildings, public amenities, signage, etc. that establish orientation and a sense of place.

E. Patrick Street is a major gateway corridor into Downtown Frederick from East Street.

Southern gateway near Monocacy Boulevard and South Street threshold

Figure 2.49: Gateways and Thresholds

Frontages & Ground Floor Uses

East Street is an emerging, mixed-use corridor that has seen significant private reinvestment and interest in recent years. The street provides direct access to several businesses and also serves as a vital link to adjacent neighborhoods. As an important multi-modal corridor for the city, the street accommodates a wide range of transportation modes.

The potential for growth of businesses and residents along the corridor has increased the demand for wider sidewalks for pedestrians; facilities to support alternative transportation options; and efficient parking resources to ensure patronage of businesses.

However, the constrained configuration of the pedestrian ROW, the dominance of fast-moving vehicular traffic and the lack of public realm amenities provide few incentives for people to come to the street to spend time, spend money, meet with people, and window shop.

Streetscape frontage varies significantly along the East Street corridor. ROW frontages include urban development located immediately adjacent to the sidewalk to suburban/industrial frontages with buildings set back far from the street and service zones such as parking located immediately adjacent to the street.

Development Character Zones

Building types and frontages include five distinct development zones along East Street:

Vacant & Recreational: Monocacy Boulevard to W. South Street

This zone is primarily undeveloped and serves as an important gateway into Frederick from the south.

Downtown Commercial: W. South Street to E. 2nd Street

This area includes many of the corridor's civic amenities such as the Frederick Visitors Center, MARC Train Station, Carroll Creek Park, and proximity to a public parking garage (along All Saints Street). Generally, buildings are located close to the street right of way in an urban form. Ground floor commercial uses provide streetscape activation. Several sites are underdeveloped and are prime for redevelopment.

Downtown Mixed-Use: E. 2nd Street to E. 4th Street

Existing development includes ground floor activating uses, as well as upper floor residential uses.

Light Industrial & Commercial Core: E. 4th Street to E. 13th Street

This zone represents the corridor's industrial, manufacturing, and auto-oriented commercial core. Building setbacks range dramatically from block to block throughout the area. Light industrial buildings, parking, and loading areas are located close to the East Street ROW. In-line retail centers are setback away from the ROW in a suburban form which includes large parking lots oriented close to the street.

Suburban Residential: E. 13th Street to Market Street

Apartments and single-family residential uses are located along the East Street Corridor with varying setbacks (generally close to the East Street or railway ROW). Monocacy Village Park is a major linear park that terminates at the East Street Corridor.

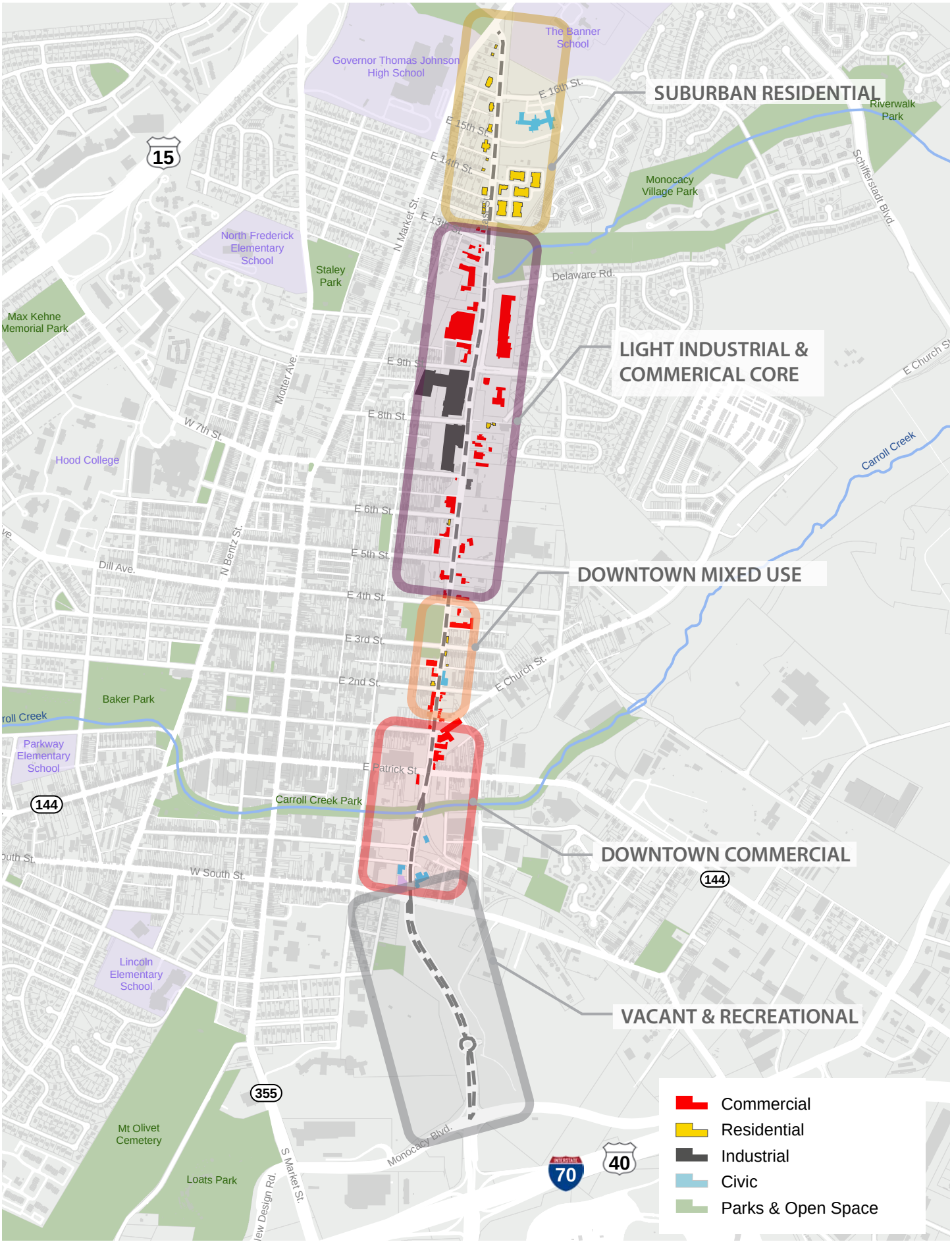


Figure 2.50: Development Character Zones

Streetscape Character

Currently, the street lacks cohesiveness, a coherent image, and a thematic idea that ties the street together. There are also several elements that detract from the overall visual appearance of the street. In many areas along the corridor, overhead utility poles dominate the street, creating impediments for pedestrians and visual clutter from overhead wires.

The streetscape along East Street is categorized into seven conditions defined by pedestrian walkability, safety, and visual character.

Condition 1: No Sidewalk

- A sidewalk is not provided on one or both sides of the street.
- The vehicular zone immediately abuts planted areas, lawns, railway tracks, or parking lots.
- May or may not have raised curbs delineating edge of the vehicular zone.

Condition 2: Curb + Sidewalk

- Sidewalk is located immediately adjacent next to the street separated only by a curb.
- Obstacles in the sidewalk include utility poles and signs.
- The 'street wall' is comprised of a building, fence, wall, or parking area.
- There is no buffer between sidewalks and parking lots in areas north of 5th Street. Parked cars project onto the sidewalk which impedes pedestrian circulation. Frequent curb cuts also pose safety concerns.

Condition 3: Curb + Sidewalk + Tree Zone

- The sidewalk located next to the street separated only by a curb.
- A planting area with trees (often planted in adjacent property) is located along the ROW, providing some shade.
- Brick banding between curb and main section of sidewalk between South Street and East Patrick Street and between 4th and 5th Streets.
- Most utility poles and signs in planting strip.

Sidewalk Condition 1: No sidewalk

Sidewalk Condition 2: Curb + Sidewalk

Sidewalk Condition 3: Curb + Sidewalk + Tree Zone

Condition 4: Curb + Lawn + Sidewalk

- The sidewalk is separated from the street only by a curb and a narrow strip of lawn without trees.
- The ROW is defined by a building, parking lot, or planting area.
- Most utility poles and street signs are located within curbside planting strips.
- Frequent curb cuts pose safety concerns.

Sidewalk Condition 4: Curb + Lawn + Sidewalk

Condition 5: Curb + Street Tree + Sidewalk

- Sidewalks are separated from the street by a curb and intermittent tree pits providing some shade.
- Located along areas of the Downtown fabric (including brick paved sidewalks).
- Narrow sidewalks include various obstacles such as utility poles, signs, architectural features, and tree pits.

Sidewalk Condition 5: Curb + Street Tree + Sidewalk

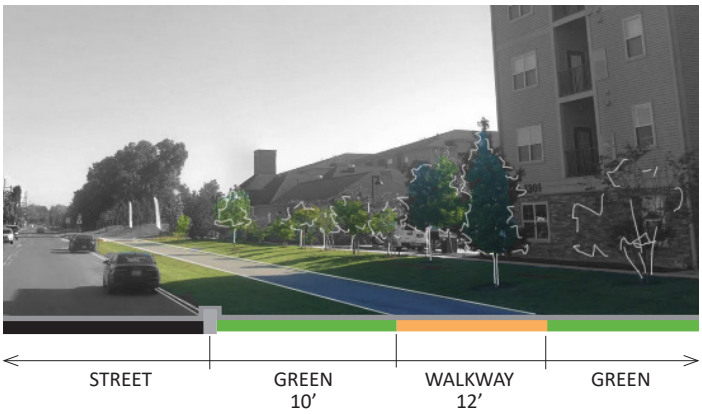
Condition 6: Curb + Lawn + Sidewalk + Tree

- Generally located south of South Street providing an obstruction-free walking experience with shade.
- The sidewalk is separated from the street by a curb and strip of lawn.
- The ROW edge is defined by a planting area with trees.

Sidewalk Condition 6: Curb + Lawn + Sidewalk + Tree

Condition 7: Curb + Lawn + Greenway + Lawn

- Wide walkway separated by a curb and generous planting strip from the street.
- The ROW edge is defined by lawn, planting areas, and trees.
- Utilizes the existing railway ROW.



Sidewalk Condition 7: Curb + Lawn + Greenway + Lawn

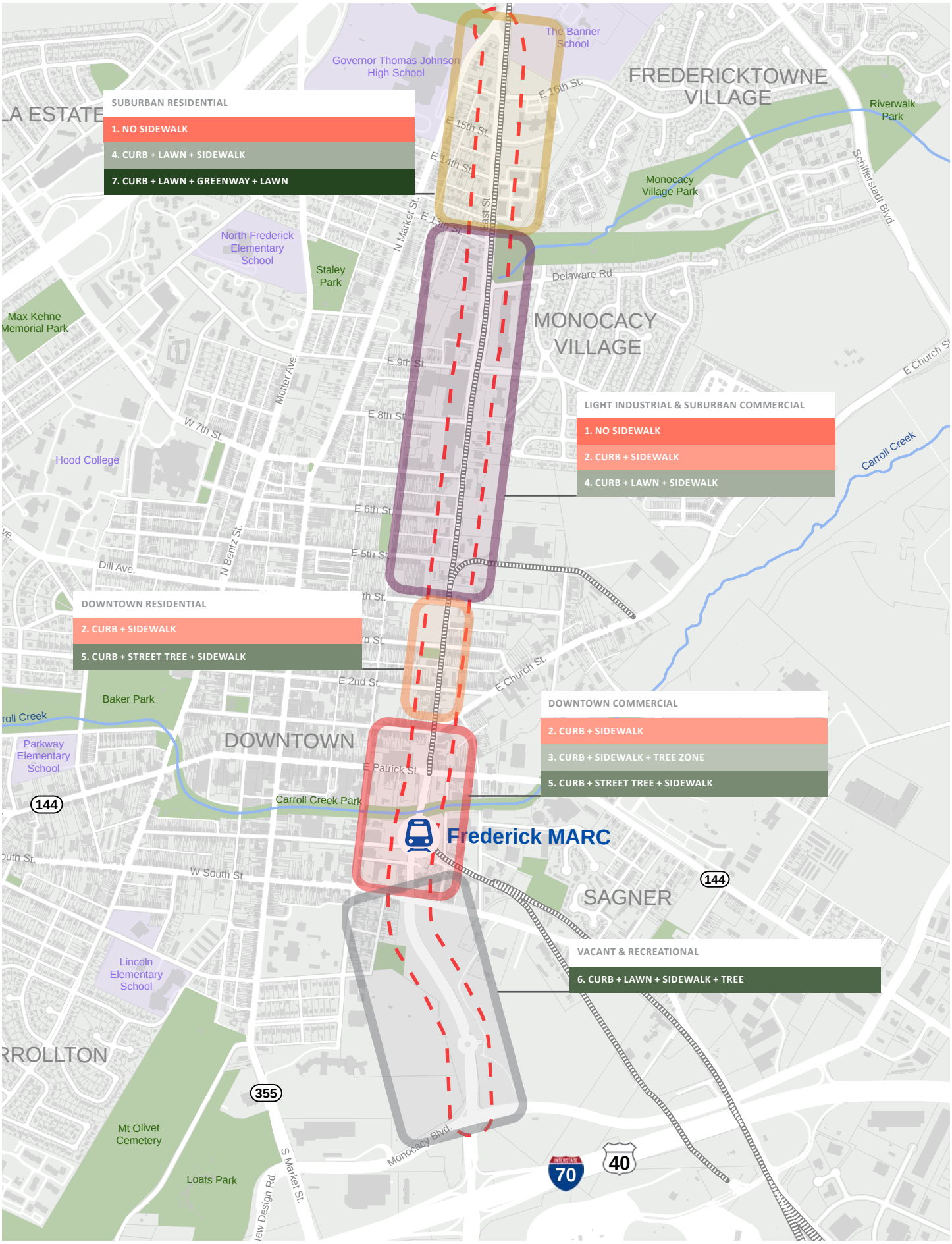


Figure 2.51: Existing Sidewalk Conditions


STATE LAW
STOP FOR
IN X-WALKS

3. Issues & Opportunities

Key Takeaways

This section summarizes key takeaways from the existing conditions analysis by topic areas.

Previous Plans & Studies

- East Street is an important economic corridor and a key gateway to the City of Frederick.
- The community and stakeholder groups involved with the East Street Corridor desire a more walkable and bikeable corridor that prioritizes community connections to open space, transit facilities, and mixed-use development while preserving and celebrating the area's historic character.
- This project should build from and incorporate recently completed and ongoing planning efforts, including the East Street Rails to Trails, the Complete Streets Policy, and the East Street Corridor Small Area Plan.

Land Use & Zoning

- Existing land uses along the corridor are a mix of commercial, residential, industrial, recreational, and institutional uses.
- Some industrial and suburban commercial land uses may not be compatible with the City's long-term vision for the East Street corridor.
- The City's vision presented in the zoning map and future land use map for the East Street corridor is to transform it into an urban, mixed-use, high-density corridor.
- Many vacant and underutilized properties are located along the corridor that are potential redevelopment opportunities.

Demographics

- Population and employment density is concentrated in the downtown area.
- The black or African American and Asian population is concentrated on the west side of the study corridor.
- Households in poverty and households without cars are concentrated in the northern side of the study corridor.
- Many employees in the city travel from Ballenger Creek, Hagerstown, Linganore, Walkersville, Thurmont, Spring Ridge, Urbana, Brunswick, and Germantown for work.
- Many residents in the city travel to Baltimore, Washington DC, and Germantown for work.
- The study corridor's southern and northern areas lie within MWCOG Equity Emphasis Areas.

Transportation

- Large segments of the northern half of the study corridor do not have sidewalks.
- Marked and controlled crossing locations are limited and less frequent outside the downtown area.
- Existing bicycle facilities are limited to sharrows for most of the study corridor, which does not qualify as a low-stress facility. Separated bike lanes and shared use paths are proposed along the study corridor.
- Transit Center on East Street is a major hub served by many local bus routes, MTA commuter buses, and MARC train.
- Road Diet on East Street may be feasible based on AADT Traffic volumes numbers. But additional detailed traffic study may be required.

Urban Design

- East Street study corridor has multiple distinct characters districts based on land use and urban form.
- Outside the downtown area, the public realm and streetscape is not pedestrian-friendly.
- The downtown area has a narrow ROW and constrained public realm but feels most pedestrian-friendly because of the overall scale.
- Abandon rail ROW, and frontage road between 9th Street to Peters Lane provides an opportunity to develop a linear park along East Street.

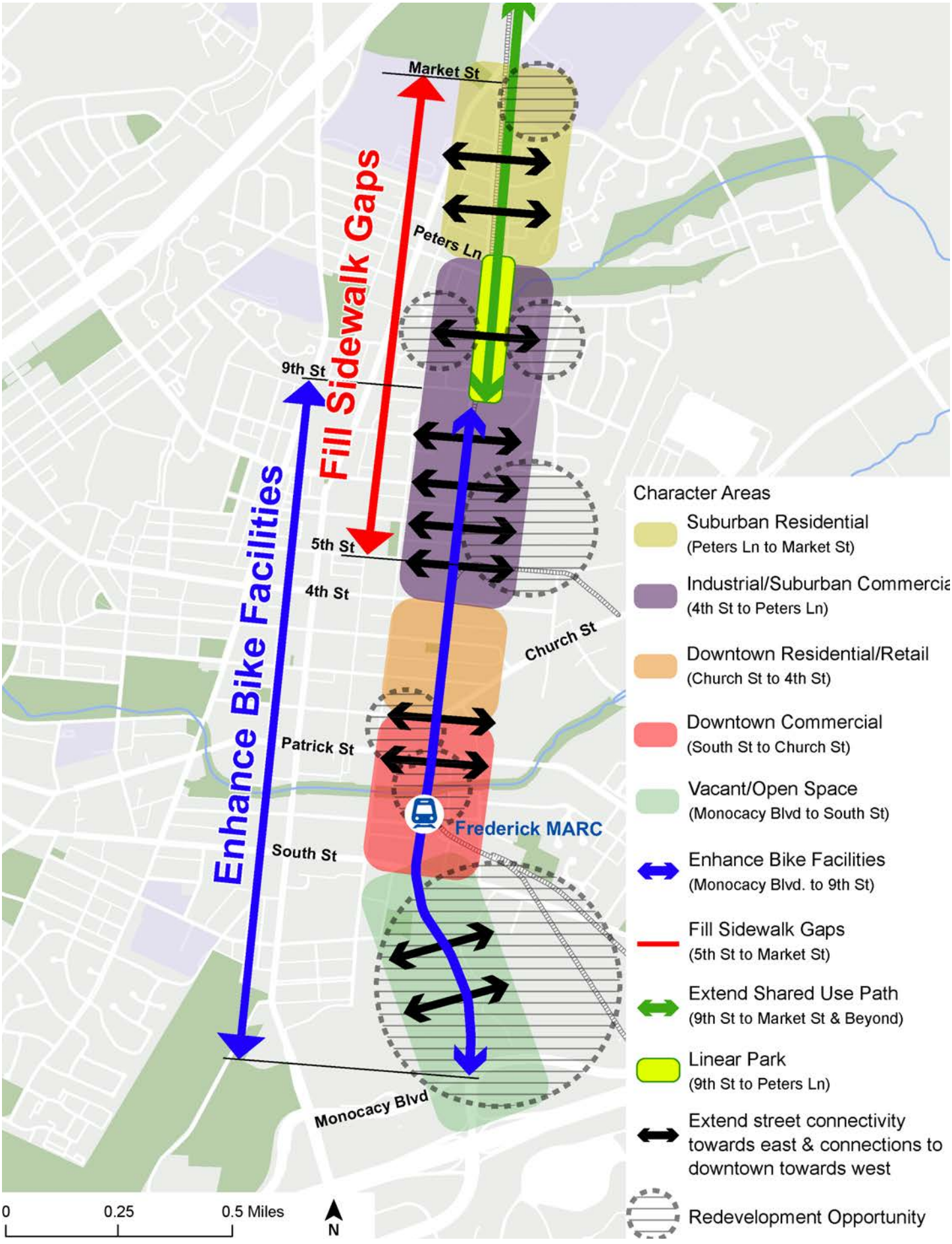


Figure 3.1: Issues & Opportunities Diagram


Shab Row
Shab Row
Charlotte's Cottage Quilt Shop

4. Public & Stakeholder Engagement

Engagement Process

The project team developed multiple engagement tools and events to gain feedback on project goals, analysis, and recommendations. Due to the ongoing COVID-19 pandemic, the project team virtually hosted the introductory public meeting and the first stakeholder meeting. An in-person second stakeholder meeting was hosted in May 2022. The City created a project website and conducted a public input survey to share information and hear from residents, visitors, employees, and business owners about the project. The survey remained open for public feedback from mid-February to mid-March 2022.

Introductory Public Meeting (Virtual)

A virtual public meeting was held via Microsoft Teams on February 28, 2022. After brief introductions, the project team presented the overall project goals, background, scope and schedule, and next steps. Community members called in after the presentation to ask questions or share comments. The following topics were discussed as part of the question-and-answer session:

- This project will not develop detailed recommendations for density, land use, redevelopment, or zoning. The City is working on a separate Form-Based Code project, which will include recommendations related to density, land use mix, building form, and parking.
- The City needs to conduct traffic analysis to ensure that the transportation network can effectively handle new design and development.
- The City needs to engage the industrial land owners to develop a long-term plan related to feasibility of industrial uses along East Street.
- East Street is currently functioning as a truck route, which is not compatible with the long-term vision for East Street. The plan should develop truck circulation recommendations.
- The plan should develop recommendations for under-grounding overhead utilities or adding landscape and streetscape design to mask the utilities.

Online Survey

The City conducted an online survey using Microsoft Forms. The survey was advertised on the City's website and through the project's stakeholder group. The survey remained open from February 14, 2022, to March 19, 2022. A total of 558 responses were collected as part of this online survey.

Apart from optional email, name, and demographic questions, the survey included the following questions:

- East Street is important to me because I... (Indicate all that apply)
- The ways that I travel on East Street are by... (Indicate all that apply)
- If conditions were better, I would be more likely to... (Indicate all that apply)
- Please describe places on or aspects of East Street that you find inviting, comfortable, and appealing:
- Please describe places on or aspects of East Street that could be better:
- Use this space to tell City staff something that should be known about East Street as we plan for its future.
- Please complete the following statement: "In 10 years, East Street will be..."

The following list summarizes main takeaways from the over 500 responses

- East Street does not feel safe and comfortable for walking or bicycling.
- East Street feels disjointed and does not feel like an urban corridor, especially south and north of the downtown area.
- Respondents would like to walk and bicycle along East Street if the facilities were safe and comfortable.
- Carroll Creek, Shab Row, Everdy Square, local restaurants, and local retail establishments are important destinations.
- Respondents like East Street for its historical importance that is still reflected through the architectural and urban design character.
- Respondents were concerned about truck traffic.

1st Stakeholder Meeting

A virtual stakeholder meeting was held via Microsoft Teams on March 14, 2022. Apart from the core project team members consisting of three City staff and four consultants, 20 stakeholders attended the meeting. These stakeholders included staff from other City agencies as well as residents and business owners in and near the study area. After brief introductions, the project team presented the overall project goals, background, starter ideas, and next steps. The following list summarizes the meeting discussion.

Starter Idea #1: TOD

- Questions were asked about why redevelopment has not occurred around MARC station even after plans calling for TOD development as far back as 2002. It was clarified that market conditions after 2008 were not conducive for redevelopment, especially residential condo development. Zoning and parking regulations, density maximums, and height/building envelope or massing restrictions also presented challenges for redevelopment.
- The Density Enhancement Area along East Street, and upcoming Form Based Codes may address some of these regulatory issues to encourage development.
- Some projects have been completed since the original 2002 plan, such as the Visitor Center, Public Schools Building, Carroll Creek linear park extension, etc.

Starter Idea #2: Continuous Bicycle Facilities

- Stakeholders preferred to develop bicycle facilities in a way where people on bicycles do not have to transition to other side of the street to continue going southbound.
- Option 2 is preferred with continuous facilities on both sides.

Starter Idea #3: Repurpose Lanes to Right-size East Street

- Removing turn lanes may impact vehicular traffic and result in delays and long queues.
- Stakeholders expressed a need to conduct an additional traffic study, especially to examine the impact of lane removal on parallel streets and alleys.
- There are two on-street spaces on the west side of East Street just south of Church Street.
- On-street parking between 2nd St and 4th St is well utilized by people visiting Pistarro's Restaurant and other retail destinations.

Idea #4: Linear Park

- Stakeholders were supportive of this idea.
- Potential to integrate green stormwater management devices like rain gardens and bio-swales as part of the park.
- Idea #5: Repurpose Curbside Space - 9th St to Market Street.
- On-street parking is used by people visiting the 'East of Market Apartments' complex.
- Traffic calming treatments will be helpful in this segment.

General Notes

- This project is focused on multi-modal transportation and streetscape improvements with high-level recommendations for urban design and redevelopment.
- Development guidelines will be developed by another separate study focused on Form Based Codes for East Street.
- The Stakeholders expressed interest in reconvening the Steering Committee for East Street to continue the discussion beyond this TLC project.

2nd Stakeholder Meeting

An in-person stakeholder meeting was held on May 26, 2022. Apart from the core project team members consisting of three City staff and three consultants, ten stakeholders attended the meeting. After brief introductions, the project team presented project updates, draft recommendations, and next steps. The majority of the meeting discussed multi-modal transportation and urban design, and streetscape recommendations. The following list summarizes the meeting discussion.

General Meeting Notes

Pedestrian Recommendations

- Explore options to widen existing sidewalks. Some existing sidewalks are narrow.
- Develop prioritization for the implementation of recommendations. Some sidewalk projects that fit within the existing ROW and without significant curb and stormwater/utility work may be easier to implement. Some other sidewalk recommendations may wait until properties redevelop to require easements and frontage improvements.
- The City will need to identify funding for implementation of most of the recommendations or rely on redevelopment for implementation.

Bicycle Recommendations

- Identify parallel routes using alleys through Downtown segments between Church Street to 4th Street.
- Explore recommending Chapel Alley and Maxwell Ave alleys as parallel bicycle facilities with shared lanes.
- Add planned bicycle facilities on 7th Street and N Market Street on bicycle recommendations maps.
- The City staff will share other bicycle facilities that are funded or designed that the project team should add to the bicycle recommendations maps.

Bus Stop Recommendations

- TransIT has reviewed draft recommendations and provided feedback.
- There was a discussion regarding bus stops in the downtown area. The project team clarified that TransIT's policy is that buses can stop at any corner that allows safe discharge, even if not explicitly signed as a bus stop.
- The project team will consider making recommendations to explicitly identify signed bus stops with shelter, bench, and lighting facilities in the downtown area.

Truck Circulation Recommendations

- Pine Avenue extension, north of 5th Street Extension/ County Lane, may not be feasible to be constructed due to wetland and floodplain issues.
- Aligning Highland Ave to County Ln/5th Street extension may not be feasible due to wetland and floodplain issues.
- 7th Street is most likely to be used as a truck route west of East Street to access the downtown area.

Parking

- Residents north of Peters Lane on the west side use on-street parking that is currently recommended for removal to add a south-bound separated bicycle lane.
- The project team added that most of the buildings on the west side of East Street north of Peters lane have access from side streets and not East Street. These buildings also have off-street surface parking lots or driveways.
- Side streets, including Peters Lane, Sunny Lane, 14th Street, 15th Street, and 16th Street, have on-street parking.

Redevelopment

- SHA may not allow additional access points on Monocacy Boulevard.
- It is anticipated that future redevelopment will accommodate parking in the form of underground or structured parking within development sites.
- One stakeholder recommended changing the red color for frontages on urban design framework diagrams as it may be misconstrued to represent retail land uses.
- The City staff mentioned that the Form-Based Codes project could address zoning, retail capacity and the number of stories, etc.

General Notes

- Stakeholders mentioned a need for the City to conduct a traffic study on East Street to vet the recommendations from a traffic operations standpoint.
- The City is planning to remove abandoned rail tracks along East Street.
- Development guidelines will be developed by another separate study focused on Form-Based Codes for East Street.
- The Final Report will include an implementation section that includes a list of projects and responsible/ coordinating agency or entity.


SHAB ROW
FOOD
SHOPS
OFFICES
TEA EMPORIUM

5. Recommendations

Recommendations Framework

Based on the existing conditions analysis and stakeholder feedback, the project team developed several recommendations that advance project goals and the overall vision for East Street corridor.

- Multi-modal Transportation Recommendations
  - Pedestrian: Sidewalks and Shared Use Paths
  - Pedestrian: Crossings
  - Bicycle Network
  - Trail Network
  - Transit
  - Truck Circulation
  - Dairy Maid Frontage
  - Access Management

- Urban Design + Streetscape Recommendations
  - Urban Design Framework
  - Monocacy Village Shopping Center + Linear Park between 9th Street and Peters Lane
  - Streetscape Design Guidance by Character Areas

Pedestrian Recommendations

Sidewalks & Shared Use Paths

Sidewalk recommendations include filling sidewalk gaps on the west side of East Street between Laboring Sons Alley (just north of 5th Street) to 9th Street and from about 200 feet north of 16th Street to Market Street. The City should also explore widening existing sidewalks wherever existing sidewalks are narrower than six feet wide by requiring easements or front setbacks as redevelopment occurs along the corridor.

Shared use path recommendations include extending the existing 12 feet-wide shared use path northwards from Adkins Alley (just north of 14th Street) to N Market Street, as well as extending the shared use path southwards from Peters Lane to 5th Street.

Figure 5.1 maps sidewalk and shared use path recommendations. Table 5.1 provides additional details related to the sidewalk and shared use path recommendations.

Table 5.1: Sidewalk and Shared Use Path Recommendations

Extents	Side of Street	Length (Feet)	Type	Width (Feet)
Laboring Sons Alley to 9th Street	West	1,780'	Sidewalk	6'
200 feet north of 16th Street to N Market Street	West	480'	Sidewalk	6'
5th Street to Peters Lane	East	3,580’	Shared Use Path	12'
Adkins Alley to N Market Street	East	1,460’	Shared Use Path	12'

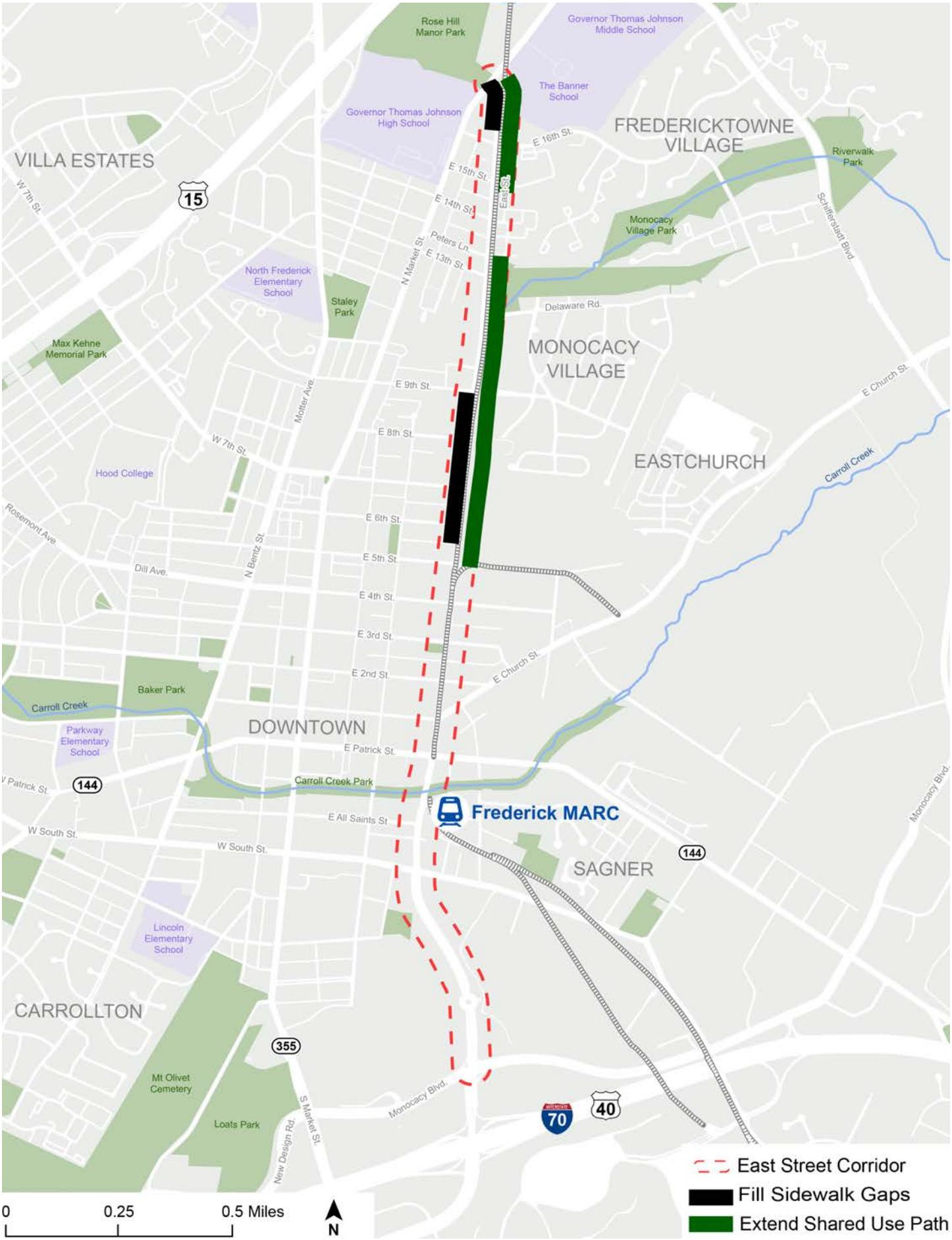


Figure 5.1: Sidewalk and Shared Use Path Recommendations

Pedestrian Recommendations (Cont.)

Pedestrian Crossing Recommendations

Pedestrian recommendations include adding new and enhancing existing crosswalks to high-visibility ladder-style crosswalks and adding new or enhancing existing pedestrian ramps to be ADA-compliant. New traffic signals and pedestrian hybrid beacons or pedestrian crossing signals are also recommended at a few key crossing locations.

Figure 5.2 maps pedestrian crossing recommendations. Table 5.2 provides additional details related to pedestrian crossing recommendations.

Table 5.2: Pedestrian Crossing Recommendations

Intersection (Along East St)	Existing Traffic Control	Proposed Traffic Control	Proposed Enhancements
N Market Street	Two Way Stop Control	Signal	High-Visibility Crosswalks & ADA Ramp Upgrades
16th Street	Signal	-	High-Visibility Crosswalks & ADA Ramp Upgrades
Peters Lane	Two Way Stop Control	Pedestrian Hybrid Beacon/ Signal	High-Visibility Crosswalks & ADA Ramp Upgrades
Delaware Road	Two Way Stop Control	Pedestrian Hybrid Beacon/ Signal	High-Visibility Crosswalks & ADA Ramp Upgrades
9th Street	Signal	-	High-Visibility Crosswalks & ADA Ramp Upgrades
8th Street	Two Way Stop Control	Pedestrian Hybrid Beacon/ Signal	High-Visibility Crosswalks & ADA Ramp Upgrades
7th Street	Two Way Stop Control	Signal	High-Visibility Crosswalks & ADA Ramp Upgrades
5th Street	Signal	-	High-Visibility Crosswalks & ADA Ramp Upgrades
4th Street	Signal	-	High-Visibility Crosswalks & ADA Ramp Upgrades
3rd Street	Signal	-	High-Visibility Crosswalks & ADA Ramp Upgrades
2nd Street	Signal	-	High-Visibility Crosswalks & ADA Ramp Upgrades
Church Street	Signal	-	High-Visibility Crosswalks & ADA Ramp Upgrades
Patrick Street	Signal	-	High-Visibility Crosswalks & ADA Ramp Upgrades
All Saints Street	Two Way Stop Control	Signal	High-Visibility Crosswalks & ADA Ramp Upgrades

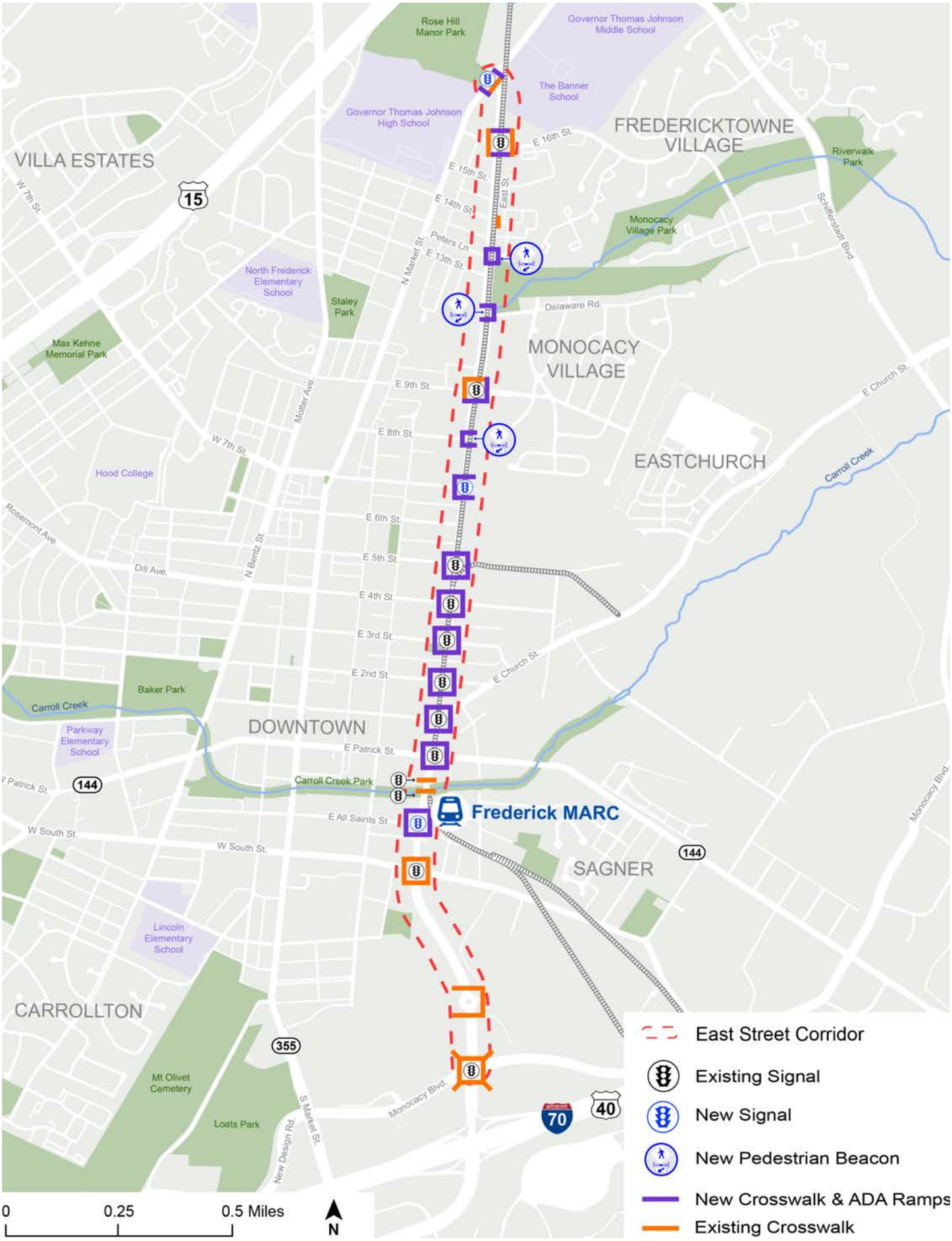


Figure 5.2: Crossing Recommendations

Bicycle Recommendations

Bicycle recommendations include creating continuous facilities along East Street from Monocacy Boulevard to N Market Street. Bicycle facility types recommendations vary along the study corridor as per segments and context. Separated or protected bicycle lanes that quality as low-stress bicycle facilities are recommended for most of the study corridor. Low-stress bicycle facilities are geared towards people who are interested in riding bicycles but concerned with current facilities. Low-stress bicycle facilities are designed to be safe and comfortable for people of all ages and abilities.

Shared travel lanes with sharrow marking have been retained as the bicycle facility recommendation in the downtown area between Church Street and 4th Street. This existing treatment has not been recommended to be changed due to the constrained street ROW and the need for on-street parking and left-turn lanes in the downtown area. Chapel Alley and Maxwell Avenue are one-way alleys that function as narrow shared streets and provide a parallel low-traffic speed and volume alternative to shared lanes on East Street through the downtown area. The city should further explore enhancing Chapel Alley and Maxwell Avenue as bike routes by implementing additional traffic calming treatments and installing bicycle route signs and wayfinding signs.

The bicycle recommendations tie into existing and planned bicycle facilities along N Market Street and 7th Street. Figure 5.3 maps existing and proposed bicycle facility recommendations. Table 5.3 provides additional details related to bicycle recommendations along East street.

Table 5.3: Bicycle Recommendations Along East Street

Extents	Side of Street	Facility Type	Length (Feet)	Width (Feet)	Separation Width (Feet)	Total Width (Feet)
Monocacy Boulevard to South Street	Both	One-Way Raised Separated Bike Lanes	2,480’	5’	5	10’
South Street to Church Street	Both	One-Way Separated Bike Lanes	1,780’	5’ - 6’	1.5’ - 5’	6.5’ - 11’
Church Street to 4th Street	Both	Shared Lanes	1,340’	-	-	10’
4th Street to 9th Street	Both	One-Way Separated Bike Lanes	2,530’	5’	1.5’	6.5’
9th Street to N Market Street	East Side	Shared Use Path	5,165’	12’	Varies (Min. 10’)	Varies (Min. 22’)
	West Side	Southbound One-Way Separated Bike Lane	3,590’	6’	3’	9’

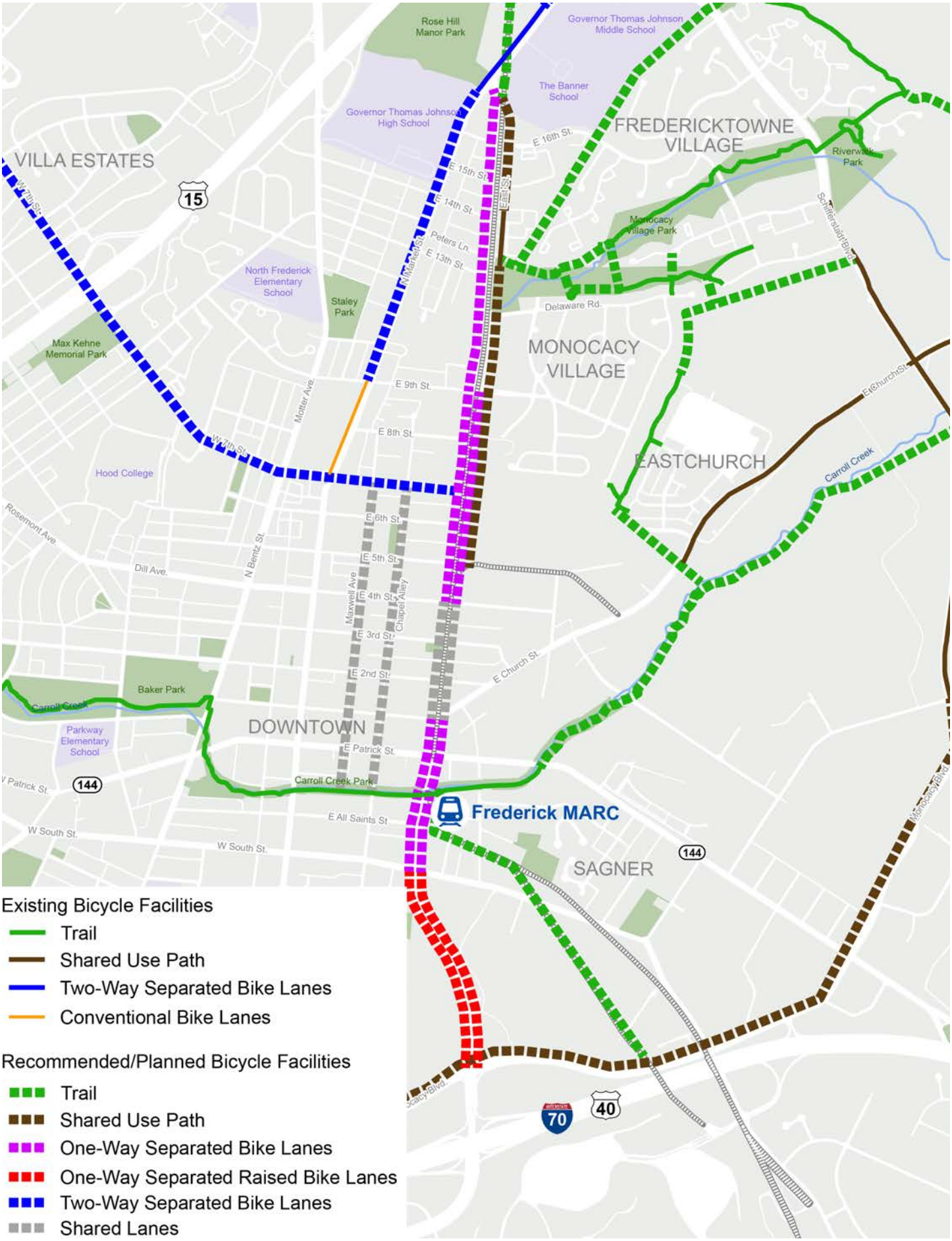


Figure 5.3: Bicycle Network Recommendation

Trail Network Recommendation

A parallel trail network has been identified that connects existing trails and shared use paths and recommends new trails and shared use paths along rail spur ROW, Carroll Creek, and other smaller creek alignments to create an off-street alternative to on-street facilities along East Street.

This trail network will provide neighborhood-level connectivity to the East Street corridor and downtown from Fredericktowne Village, Monocacy Village, Eastchurch, and Sagner neighborhoods in East Frederick. The trail network also connects several parks, such as Monocacy Village Park, Carroll Creek Park, and Rose Hill Manor Park.

The City will require to conduct additional feasibility studies to identify ROW, environmental, and utility impacts of this trail network recommendation prior to engineering design and implementation. Figure 5.4 illustrates trail network recommendation.

An example of existing trail connection at Willow Oak Drive in Fredericktowne Village neighborhood.

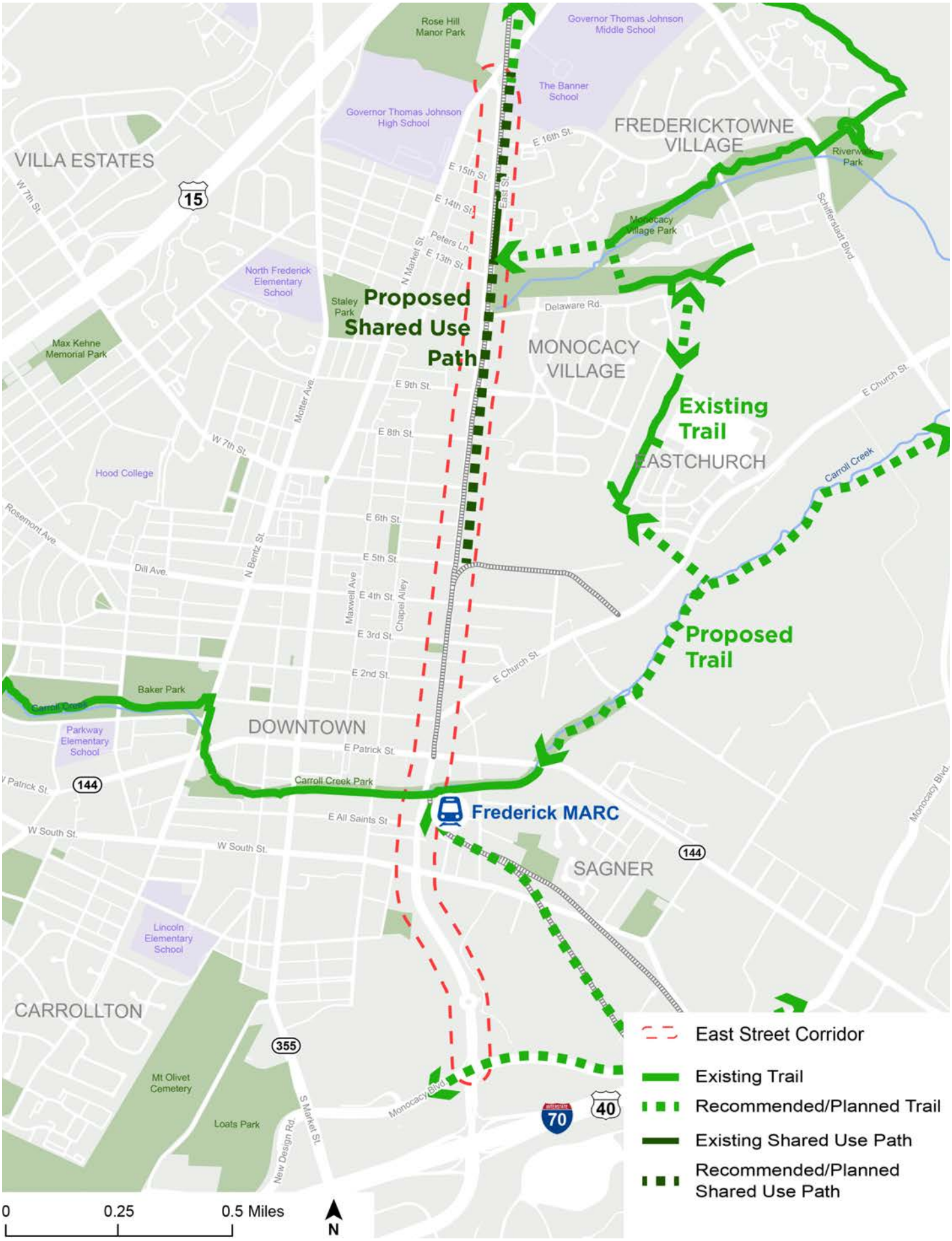


Figure 5.4: Trail Network Recommendation

Transit Recommendations

Bus Stop Locations

The East Street study corridor currently has TransIT bus stops along the study corridor at the following locations:

- MARC Train Station/Transit Center
- Church Street
- 7th Street
- 9th Street
- Delaware Road
- Peters Lane

There are no signed formal bus stops in the downtown area along East Street between Church Street and 7th Street. Within the downtown area, the current policy is that buses can stop at any corner that allows safe discharge, even if not explicitly signed. However, the City and TransIT agency should explore the potential and feasibility of adding formal bus stops in the downtown area to ensure ADA-compliant bus stops with comfortable amenities.

routes to serve the new development. The City and TransIT agency should explore the potential and feasibility of adding or expanding bus routes and stops south of South Street along East Street. Figure 5.6 maps existing bus stops and areas to test the feasibility add new bus stops and services.

Bus Stop Amenities

Transit recommendations include adding the following amenities to existing and new bus stops geared towards the safety and comfort of transit users:

- Bus stop sign
- Shelter with bench and space for wheelchair
- Pedestrian scale lighting
- Real-time bus arrival information
- ADA-compliant 5’ x 8’ landing pad
- ADA-compliant pedestrian accessible route and ramp
- Trash can
- Space allocated for future bike-share and scooter-share wherever applicable

Figure 5.5 shows typical bus stop amenities.

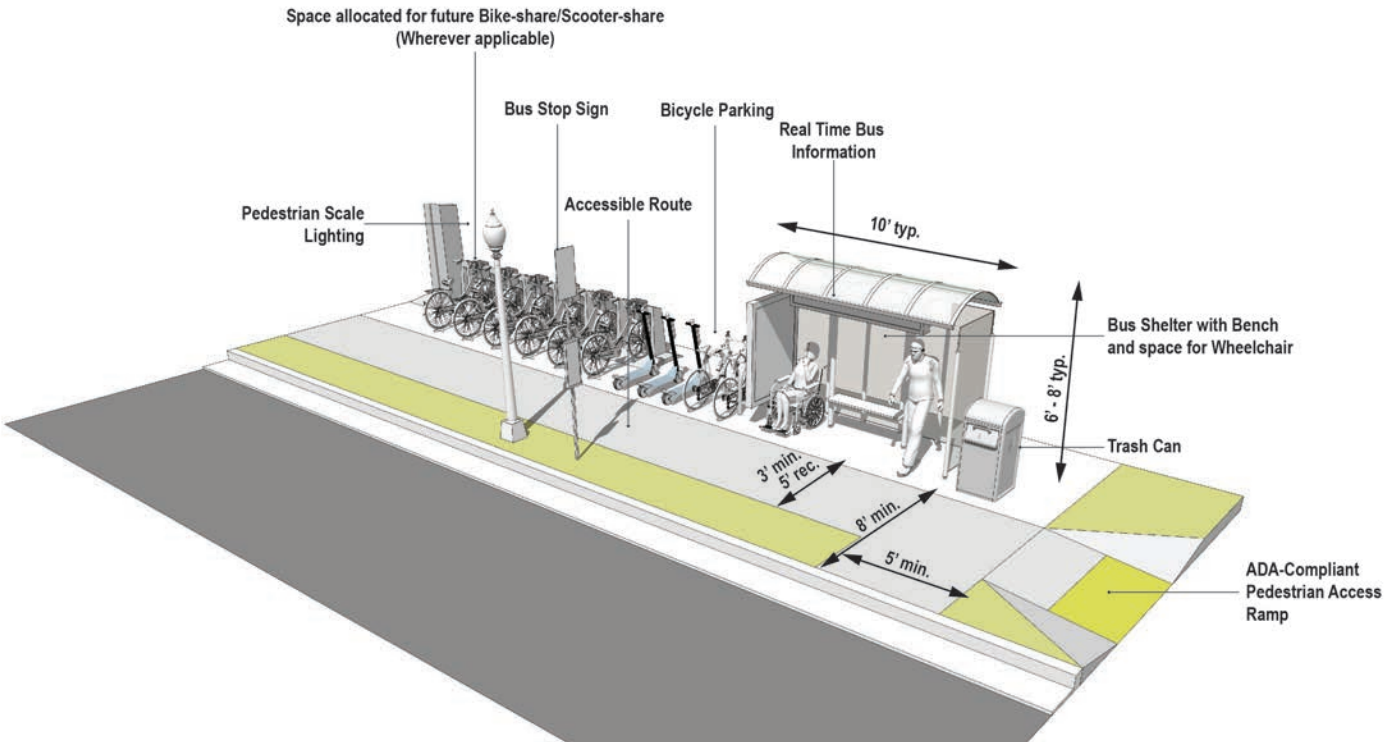


Figure 5.5: Typical Transit Bus Stop Amenities

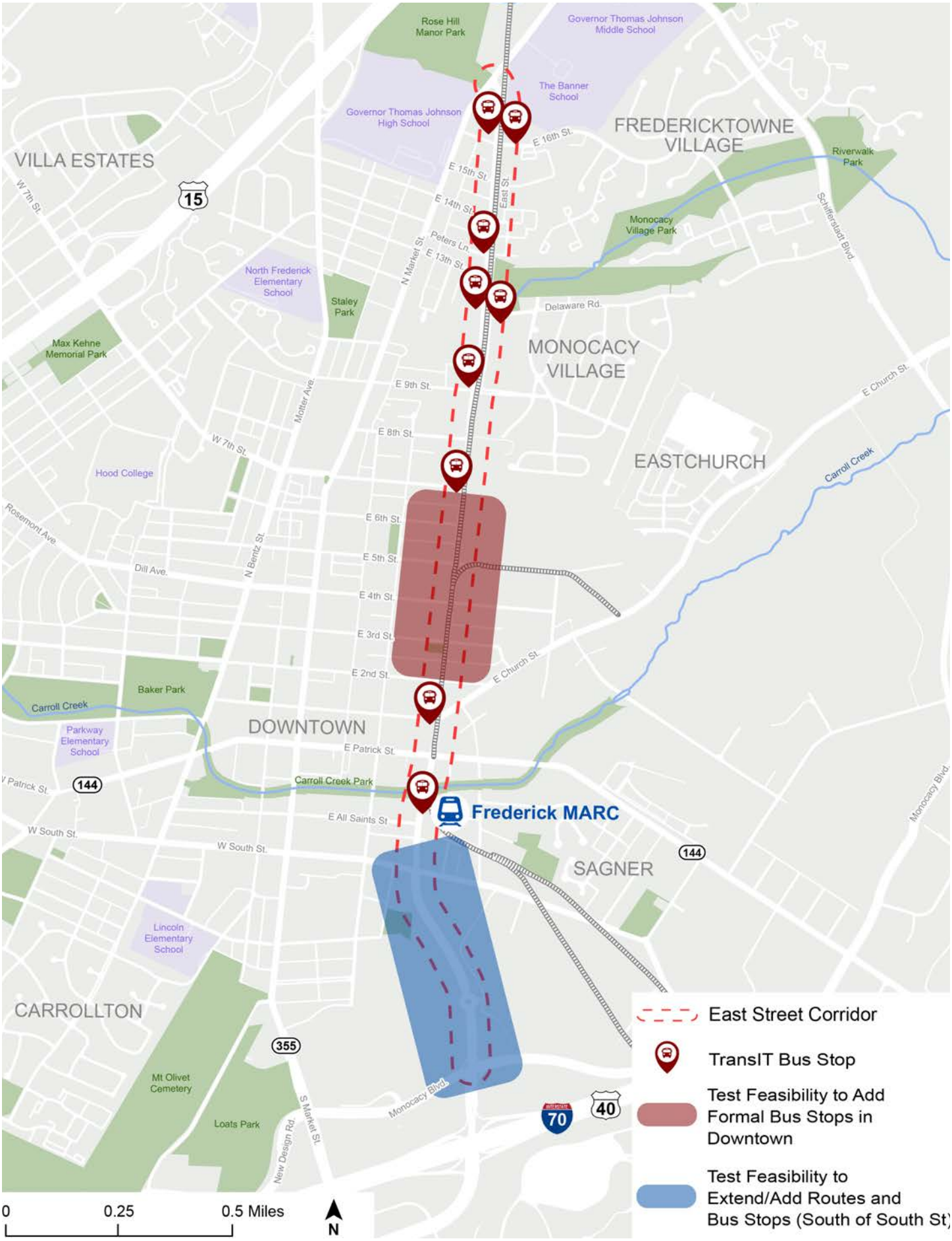
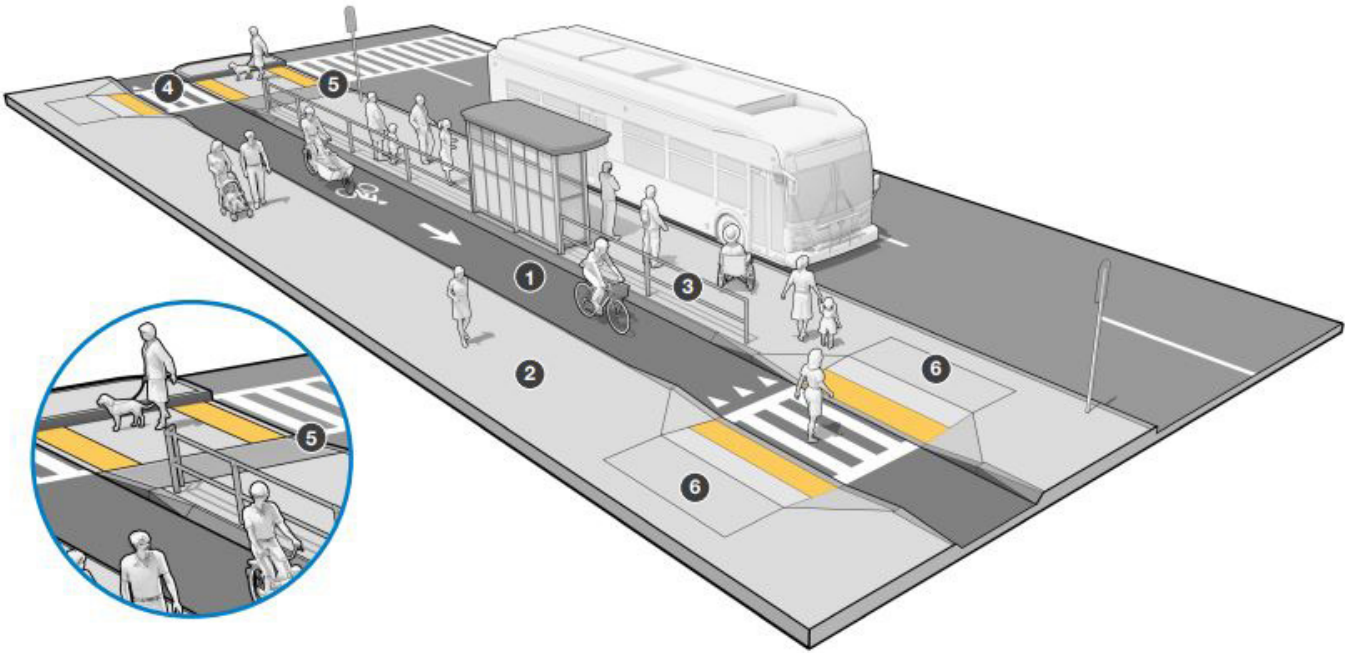


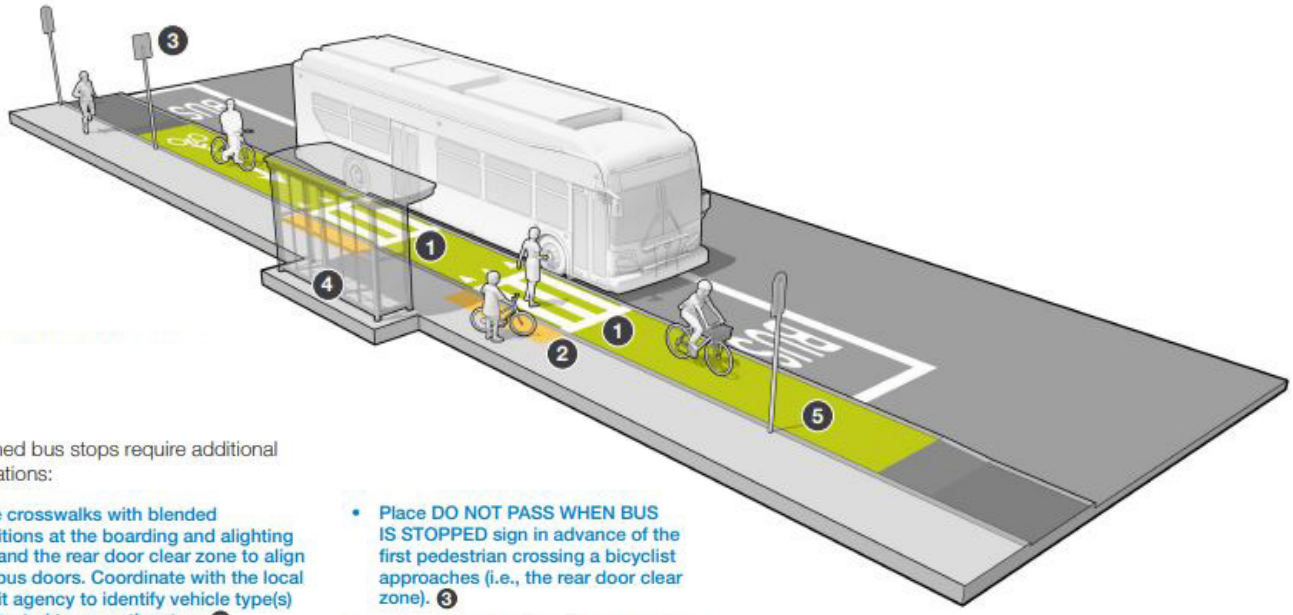
Figure 5.6: Transit Recommendations



- Consider bus bulbs adjacent to separated bike lanes to preserve right-of-way for the separated bike lane and sidewalk. ❶ ❷
- Consider railing or planters to channelize pedestrian access to and from busy bus stops. ❸
- Integrate bus stop into the pedestrian crossing at the intersection for convenient access. ❹
- Ramp to street level pedestrian cut-through must not exceed **8.3 percent**. ❺
- Provide level landing at curb ramps (**4 ft. by 4 ft.** minimum). ❻

Figure 5.7: Bus Stop & Bike Facility Interaction Options: Floating Bus Stop

Source: MassDOT



Constrained bus stops require additional considerations:

- Place crosswalks with blended transitions at the boarding and alighting area and the rear door clear zone to align with bus doors. Coordinate with the local transit agency to identify vehicle type(s) anticipated to serve the stop. ❶
- Provide combined bike lane and sidewalk width equal to at least **8 ft.** to qualify as an accessible boarding and alighting area. ❷
- Place DO NOT PASS WHEN BUS IS STOPPED sign in advance of the first pedestrian crossing a bicyclist approaches (i.e., the rear door clear zone). ❸
- When included, place shelter and/or bench at the back of the sidewalk. ❹
- Consider optional colored pavement within the constrained bike lane. ❺

Figure 5.8: Bus Stop & Bike Facility Interaction Options: Constrained Bus Stop

Source: MassDOT

Figure 5.9: Example of a Floating Bus Stop

Source: bikeeastbay.org

Figure 5.10: Example of a Constrained Bus Stop

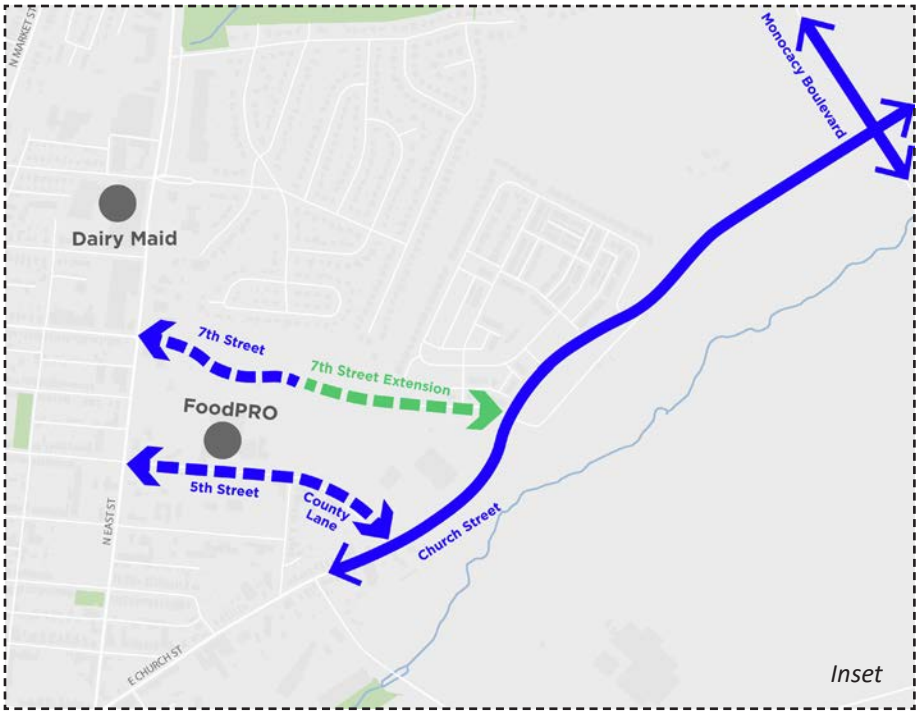
Source: nacto.org

Truck Circulation

East Street currently functions as a de facto truck route. The future vision of East Street as a mixed-use urban multi-modal corridor is not compatible with the level of truck traffic that is currently on East Street. The truck circulation recommendation takes into account the larger roadway network in and around the city to create a network for truck movement. This network includes US-15, I-270, I-70, and Monocacy Boulevard as a truck circulation loop around the city. A loop of this nature will allow truck trips originating and terminating beyond the City limits to not use East street or other urban street corridors.

In the short and medium-term, industrial land uses along the East Street corridor are envisioned to remain and continue to require truck access. Potential future street extensions of 7th Street and 5th Street, east of East Street, and connections along Church Street and Monocacy Boulevard can function as truck routes to provide truck access to the East Street corridor. This network will allow trucks to enter East Street as close to their final destination and not require trucks to drive along the East Street corridor from N Market Street or I-70. Figure 5.11 maps recommended truck circulation.

The City should conduct a detailed truck-traffic-related study to test these recommendations and create a formal truck route system. The City could explore adding new street connections or aligning existing streets to create additional ‘spokes’ connecting the overall ‘loop’ as part of the city-wide truck circulation network.



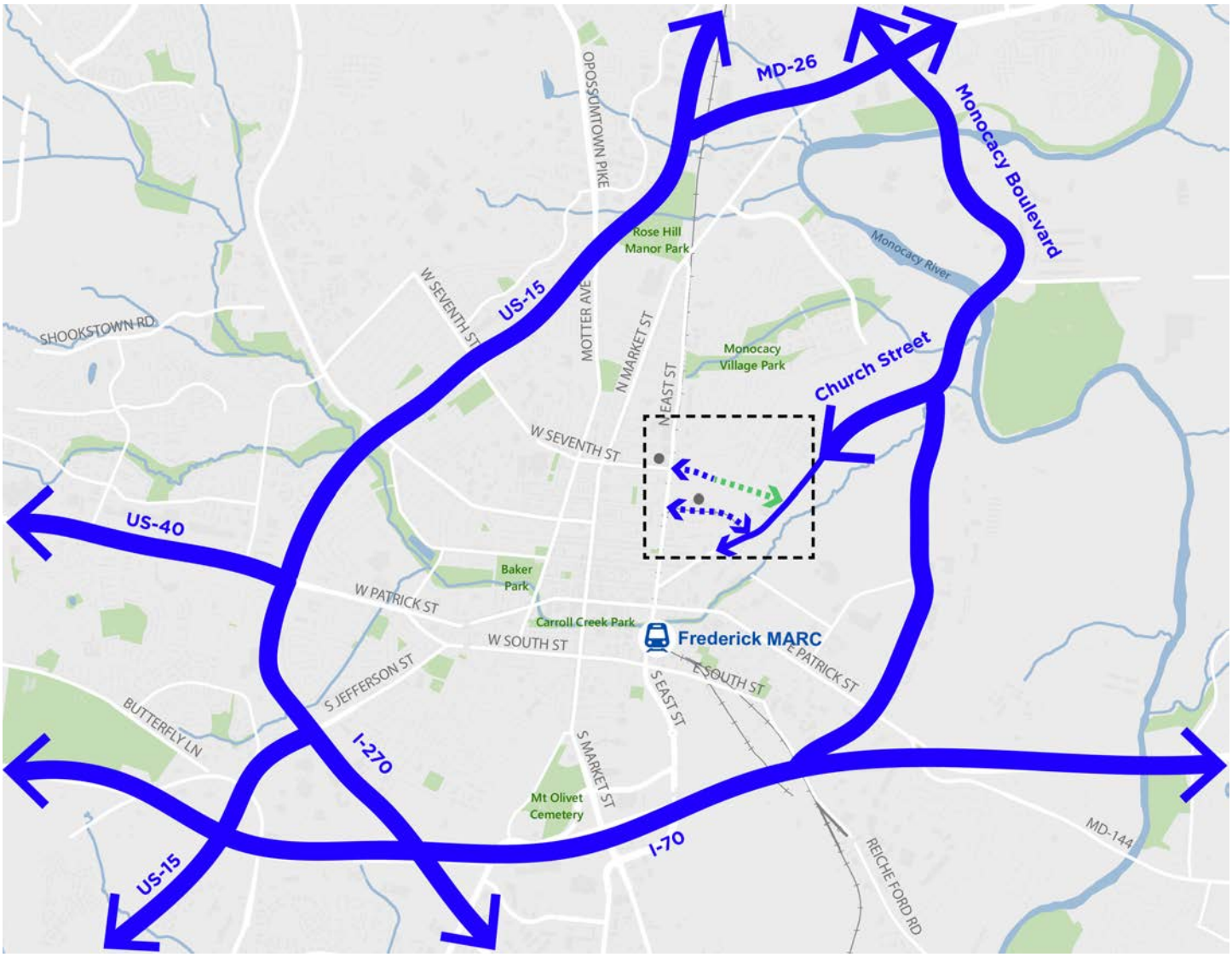


Figure 5.11: Truck Circulation

Dairy Maid Frontage

Dairy Maid loading dock frontage along East Street between 7th Street and 8th Street is a highly challenging location. Dairy Maid is expected to remain along East Street in the near and medium-term and will continue to require frequent truck access to their East Street loading dock. However, the truck movement presents an uncomfortable and unsafe condition for pedestrians and bicyclists traveling along East Street.

The recommendation for this area recognizes this challenge and treats the western block frontage of East Street between 7th Street and 8th Street as an active work zone. The recommendation tries to balance the needs of Dairy Maid operations while adding facilities and signs to inform and warn pedestrians, bicyclists, and car drivers of truck activity in the area.

The recommendations include the following treatments:

- Add a traffic signal with high-visibility crosswalks on all legs at the 7th street intersection.
- Add a pedestrian hybrid beacon or signal with high-visibility crosswalks at the 8th Street intersection.
- Add signs and /or beacons to warn pedestrians and bicyclists of truck activity and encourage them to cross East Street to walk or bike along the eastern side of East Street.
- Add a 12 feet-wide shared use path on the east side of East Street to accommodate bi-directional pedestrian and bicycle traffic.
- Add dashed green striping across the Dairy Maid loading dock to indicate the conflict zone for the width of the south-bound one-way bicycle lane on the west side of East Street.

Figure 5.12 shows the Dairy Maid frontage treatments listed above.

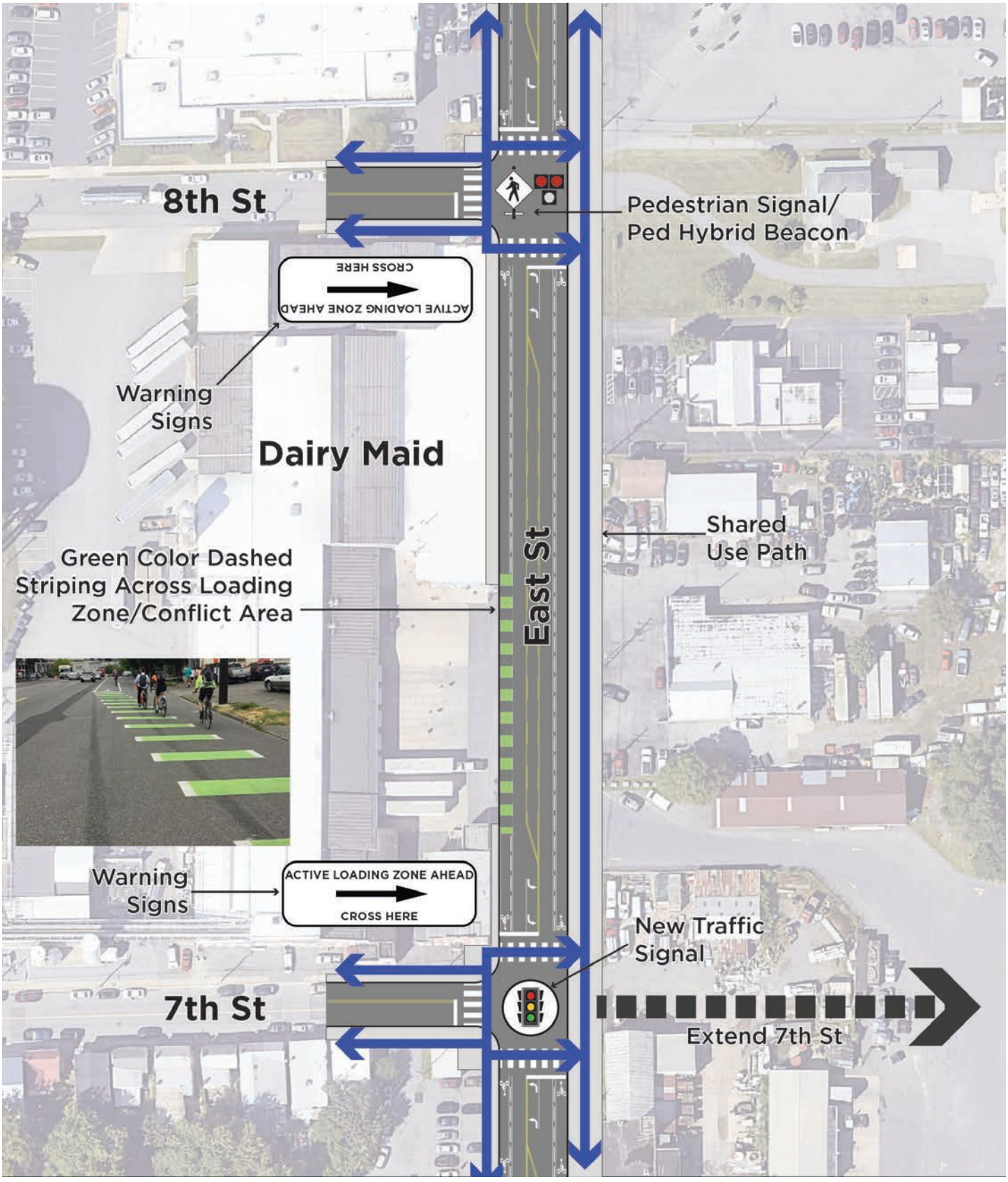


Figure 5.12: Dairy Maid Frontage Treatments

Access Management

East Street corridor currently has poor access management, especially north of 4th Street. As redevelopment occurs along the corridor, the City should implement best practices related to access management to enhance vehicular circulation as well as create safer and more comfortable pedestrian and bicycle facilities.

Access management refers to the design, application, and control of entry and exit points, like driveways, along a roadway. The FHWA defines access management as the "programmatic control of the location, spacing, design, and operation of driveways, median openings, interchanges, and street connections to a roadway." Thoughtful access management along a corridor can simultaneously:

- Enhance safety for all modes
- Facilitate walking and biking by reducing the number of conflict points at driveways
- Reduce trip delay and congestion by improving roadway capacity
- Allow for the eventual construction of continuous walking and biking facilities on parallel routes
- Provide stormwater and environmental amenities

The following access management strategies, as shown in Figure 5.13, can be used individually or in combination with one another to provide access management along a corridor:

- Driveway closure, consolidation, or relocation.
- Limited-movement designs for driveways (such as right-in/right-out only).
- Raised medians that preclude cross-roadway movements.
- Intersection designs such as roundabouts or those with reduced left-turn conflicts, like alternative intersection designs, as previously discussed.
- Turn lanes (i.e., left-only, right-only, or two-way-left-turn).
- Lower speed one-way or two-way off-arterial circulation roads facilitate parallel connections and access via side streets.

Figure 5.13 shows a conceptual corridor before and after access management concepts are applied. Access management also allows for the creation of parallel routes that provide new network connections over time, alternative routes for people walking and biking, and new access points.

Incorporating access management into all proposed developments along East Street and working with current property owners along East Street provides opportunities to reduce potential conflict points, particularly with people walking and biking while improving roadway capacity and providing stormwater and environmental amenities.

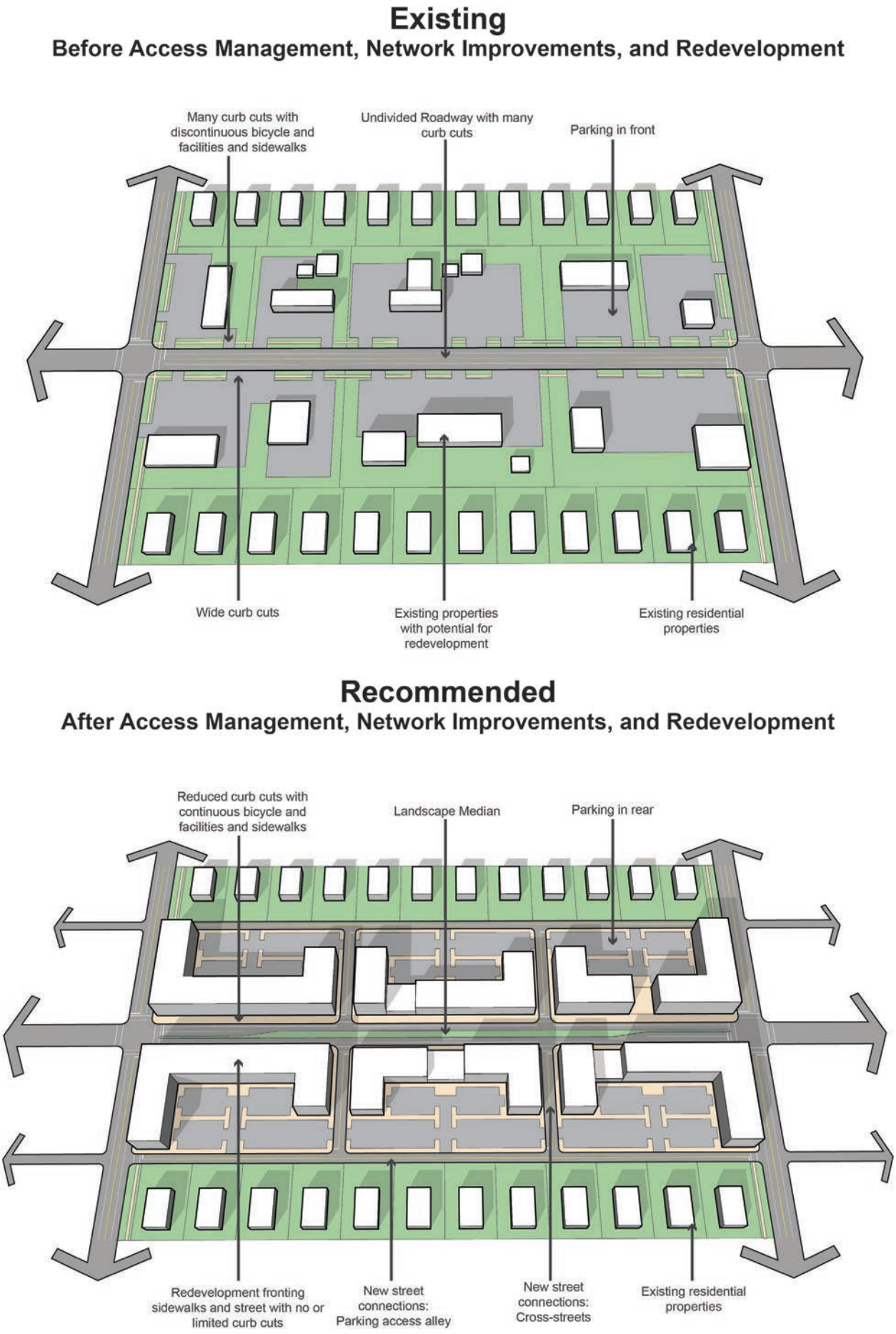


Figure 5.13: Conceptual Corridor Before Access Management (Top), and After Access Management (Bottom)

Right-Sizing East Street - Road Diet

Overview of the Road Diet Concept

Based on the existing traffic volume and the future year 2040 traffic forecasts, the East Street study corridor can function well for all modes with one lane in each direction with a left-turn lane or a center two-way left-turn lane (TWLTL). The existing conditions along the study corridor have limited safe and comfortable facilities for pedestrians, bicyclists, and transit users. The combination of excess automobile traffic capacity coupled with a need and desire to enhance pedestrian and bicycle facilities means that East Street could be right-sized with a Road Diet concept.

Road Diet concept can be implemented along East Street to include a five-lane to three-lane conversion between South Street to Church Street and a four-lane to three-lane conversion between 4th Street to 9th Street.

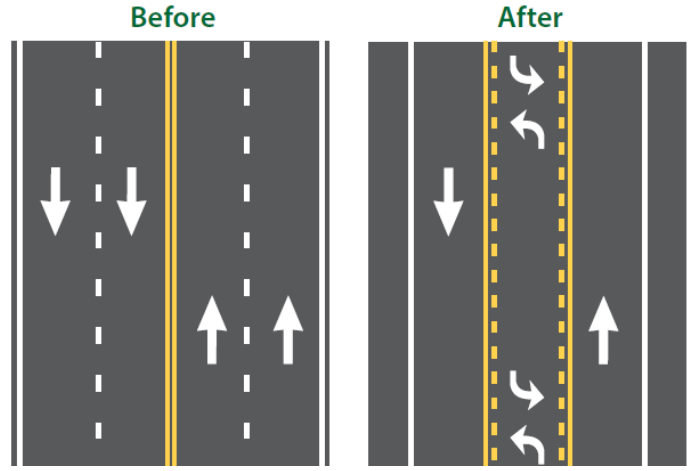
The City should conduct an additional detailed corridor-wide traffic study to test the feasibility of a road diet along East Street.

Road Diet Concept

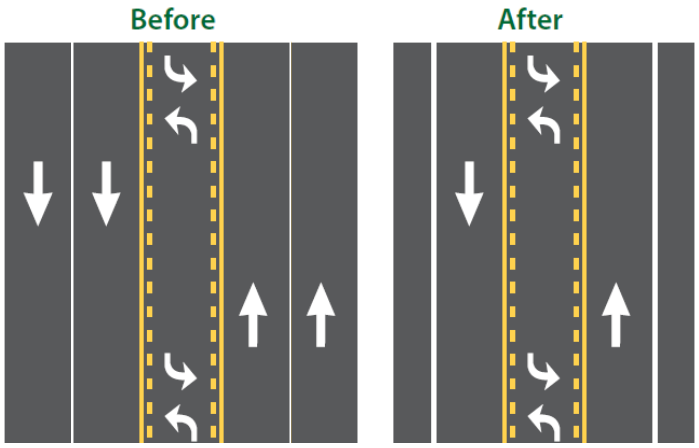
A Road Diet is generally described as removing travel lanes from a roadway and utilizing the space for other uses and travel modes. The most common type of Road Diet is a conversion of an undivided four-lane roadway to a three-lane roadway with two through lanes and a center two-way left-turn lane (TWLTL). Some Road Diet projects have also converted a five-lane road into a three-lane road. The reduction of one lane or multiple lanes allows the roadway space to be reallocated for other uses such as wider sidewalks, bike lanes, pedestrian refuge islands, transit uses, and/or parking. Figure 5.14 shows the before and after of the two most common types of Road Diet projects.

History Of Road Diets

The FHWA Road Diet Informational Guide summarizes the history of Road Diets in the United States. Although lane reduction projects have occurred for many years, the early projects have not been recorded or studied. One of the first known installations of a Road Diet occurred in 1979 in Billings, Montana. 17th Street West was converted from a four-lane undivided highway to three lanes (including a TWLTL). The average daily traffic (ADT) was approximately 10,000 vehicles. An unpublished report referenced in several previous studies indicated a reduction in crashes with no appreciable change in vehicle delay. Road Diets increased in popularity in the 1990s, with installations occurring in Iowa, Minnesota, and Montana, among other states. With rapid suburbanization and the building of new limited-access highways connecting these new suburban areas to downtowns, many urban regions saw a shift in traffic patterns from urban arterials to limited-access



Four-lane to three-lane conversion



Five-lane to three-lane conversion

Figure 5.14: Before and After of the Two Most Common type of Road Diet projects

highways. This further led to older urban arterials carrying less traffic than originally designed. This trend resulted in the implementation of Road Diets along these roadways in the 1990s and 2000s.

More recently, FHWA deemed Road Diets a "Proven Safety Countermeasure" and promoted them as a safety-focused alternative cross-section to a four-lane undivided roadway Road Diets have the potential to improve safety, convenience, and quality of life for all road users. Road Diets can be relatively low cost if planned in conjunction with reconstruction or simple resurfacing projects since applying Road Diets consists primarily of re-striping.

Benefits Of Road Diets

For roads with appropriate traffic volumes and land use context, there is research support for achieving safety benefits through converting four-lane undivided roads to three-lane cross-sections with TWLTLs.

In many cases, this type of conversion has been shown to reduce or maintain existing automobile travel time and improve or maintain current LOS due to the addition of TWLTLs. Road Diet projects also present an opportunity to incorporate principles of Complete Streets and improve the overall livability of surrounding neighborhoods.

The following summarizes the main benefits of Road Diets Projects:

Safety

- Overall crash reduction of 19 to 47 percent.
- Reduction of rear-end and left-turn crashes by implementing a dedicated left-turn lane. This is illustrated in the top graphic of Figure 5.15.
- Reduced right-angle crashes as side street motorists must cross only three lanes of traffic instead of four.
- Reduction in serious pedestrian and bicycle crashes due to traffic calming and reduction in the total number of lanes to cross.
- Simplifying road scanning and gap selection for motorists (especially older and younger drivers) making left turns from or onto the mainline.

Traffic Operations

- Reduction in travel time delays by separating left-turning traffic. This is illustrated in the top graphic of Figure 5.15.
- Side street traffic requires shorter gaps to complete movements due to the consolidation of left turns into one lane.
- Reduction in travel time due to bicycle facilities now being separated from vehicle travel lanes. This is illustrated in the middle graphic of Figure 5.15.
- For bus stops without bus pull-over areas, TWLTL can be used occasionally to overtake a stopped bus as shown in the bottom graphic of Figure 5.15.

Complete Streets

- Opportunity to install bicycle and/or pedestrian facilities when the cross-section width is reallocated. This is illustrated in the middle graphic of Figure 16.
- Opportunity to install dedicated transit facilities when the cross-section width is reallocated.
- Opportunity to allocate the "leftover" roadway width for other purposes, such as on-street parking or transit stops.

Livability

- Context-sensitive place-making and branding opportunities to create a 'sense-of-place' for the community.
- Improve overall quality of life for the surrounding community and locations of multimodal transportation facilities. These improvements would lead to broader opportunities such as safe and comfortable access to jobs, housing, schools, streets, etc.

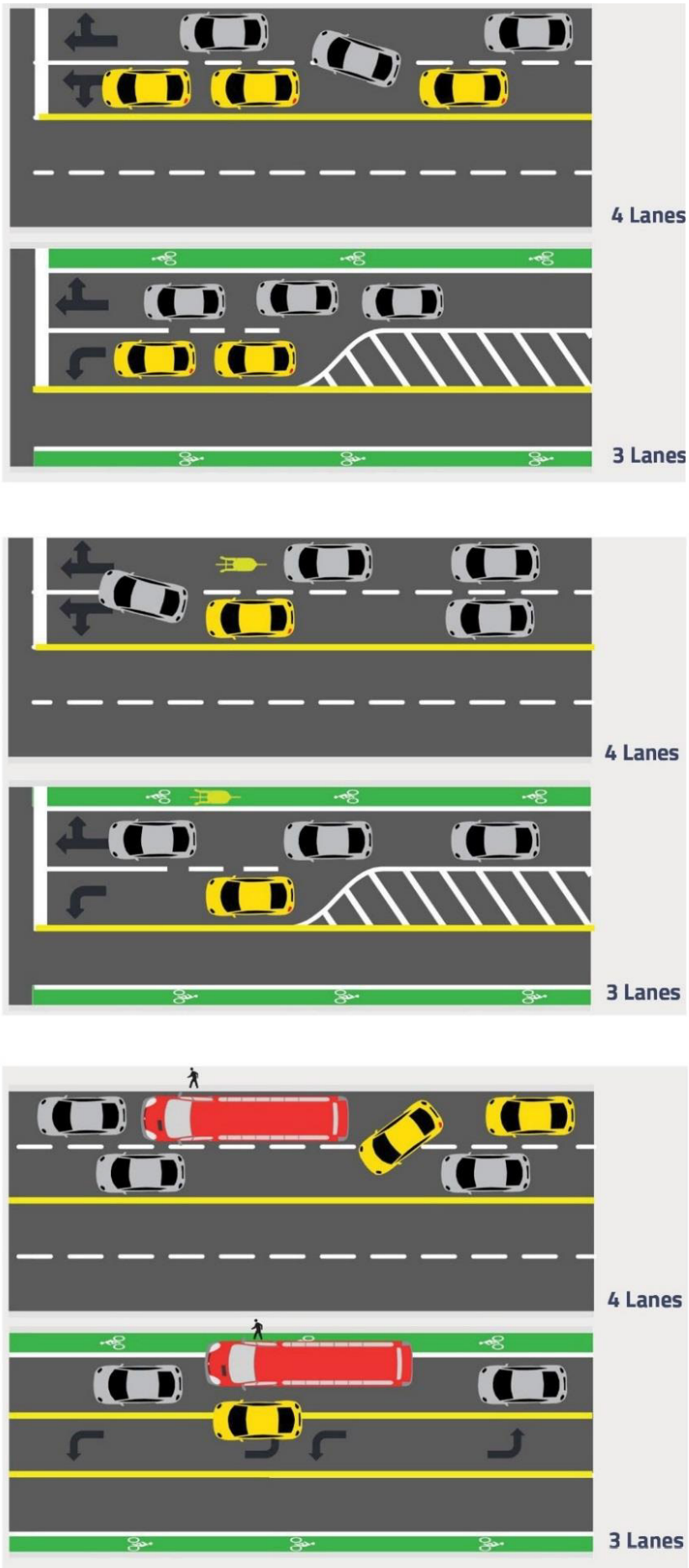


Figure 5.15: Multimodal Operational Benefits of Three-Lane versus Four-Lane Roadways

Table 5.4: Synergies and Trade-Offs of Road Diet Projects

Road Diet Feature	Primary/Intended Impacts	Secondary/Unintended Impacts	
		Positive	Negative
Bike Lanes	Increased mobility and safety for bicyclists, and higher bicycle volumes	Increased property values	Could reduce parking and access to private properties, depending on design
	Increased comfort level for bicyclists due to separation from vehicles		
Fewer Travel Lanes	Reallocate space for other uses	Pedestrian crossings are easier, less complex	Mail trucks and transit vehicles can block traffic when stopped
		Can make finding a gap easier for cross-traffic	May reduce capacity
		Could allow for wider travel lanes if current ones are substandard width	In some jurisdictions, maintenance funding is tied to the number of lane-miles, so reducing the number of lanes can have a negative impact on maintenance budgets
			Similarly, some Federal funds may be reduced
			If travel lanes are widened, can encourage increased speeds
Two-Way Left Turn Lane	Provide dedicated left turn lane	Makes efficient use of limited roadway area	Could be difficult for drivers to access left turn lane if demand for left turns is too high
Pedestrian Refuge Island	Increased mobility and safety for pedestrians	Makes pedestrian crossings safer and easier	May create issues with street sweeping / snow removal
		Prevents illegal use of the TWLTL to pass slower traffic	Can effectively increase congestion by preventing illegal maneuvers
Buffers (grass, bio-swales, concrete median, plastic delineators)	Provide barriers and space between travel modes	Increases comfort level for bicyclists by increasing separation from vehicles	Grass and delineated buffers will necessitate ongoing maintenance
		Barrier can prevent users entering a lane reserved for another mode	

Corridor Street Design

The study corridor traverses through diverse land uses and character areas. Roadway characteristics such as Right-of-Way (ROW) widths, travel lanes, sidewalks, bicycle facilities, and the overall public realm vary considerably in different segments of the study corridor. The development pattern consisting of a mix of uses such as retail, industrial, and residential, along with extensions of East Street to the south, has resulted in an inconsistent corridor experience and the overall street character.

Various multi-modal transportation, urban design, and place-making recommendations have been integrated to develop the comprehensive corridor-wide street design. The recommended corridor design is illustrated through a series of typical mid-block cross-sections and intersection plan-view drawings. Distinct typical mid-block cross-sections were developed for each segment of the study corridor to reflect the variation in existing ROW, curb-to-curb width, number of lanes, and presence of pedestrian and bicycle facilities. Similarly, intersection plan-view drawings were developed to reflect the transitions between typical cross-sections. The typical cross-sections show existing conditions and proposed designs below each other for respective segments and include approximate ROW and curb lines. The proposed design was recommended to maintain existing curb-to-curb widths to minimize any impacts of relocating existing curbs, stormwater drainage, and utilities. The proposed typical cross-sections also identify any additional ROW or easement/front setback that may be required to build the recommended pedestrian realm. The recommended design was based on a planning-level review of the existing ROW and the location of curbs and utilities. The City should conduct a survey and develop preliminary and final engineering designs to confirm or revise the recommendations as necessary.

The following pages illustrate the 12 typical mid-block cross-sections and five intersection plan view drawings.

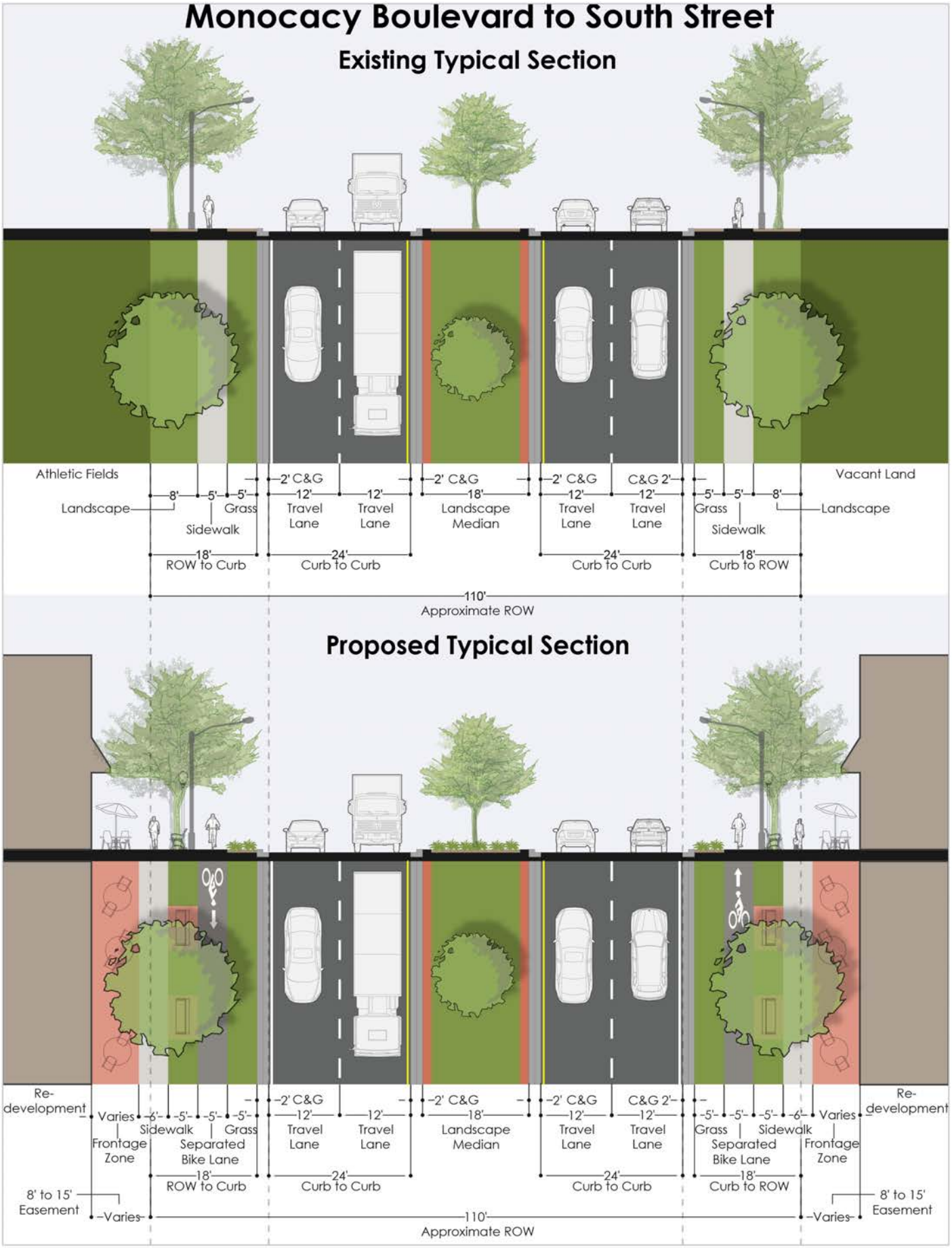


Figure 5.16: Existing and Proposed Typical Section - Monocacy Boulevard to South Street

Figure 5.17: Proposed Intersection Design - East Street and South Street

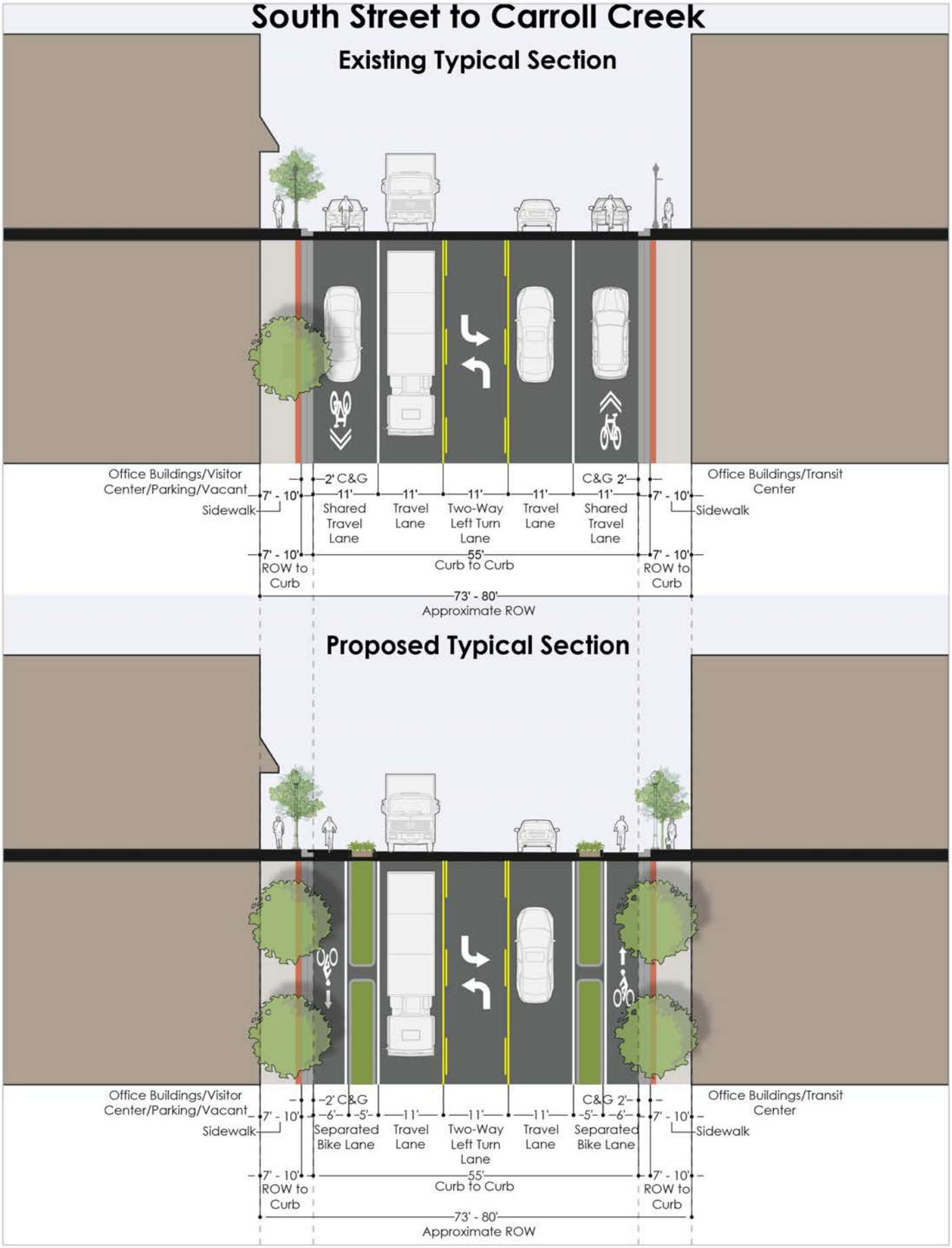


Figure 5.18: Existing and Proposed Typical Section - South Street to Carroll Creek

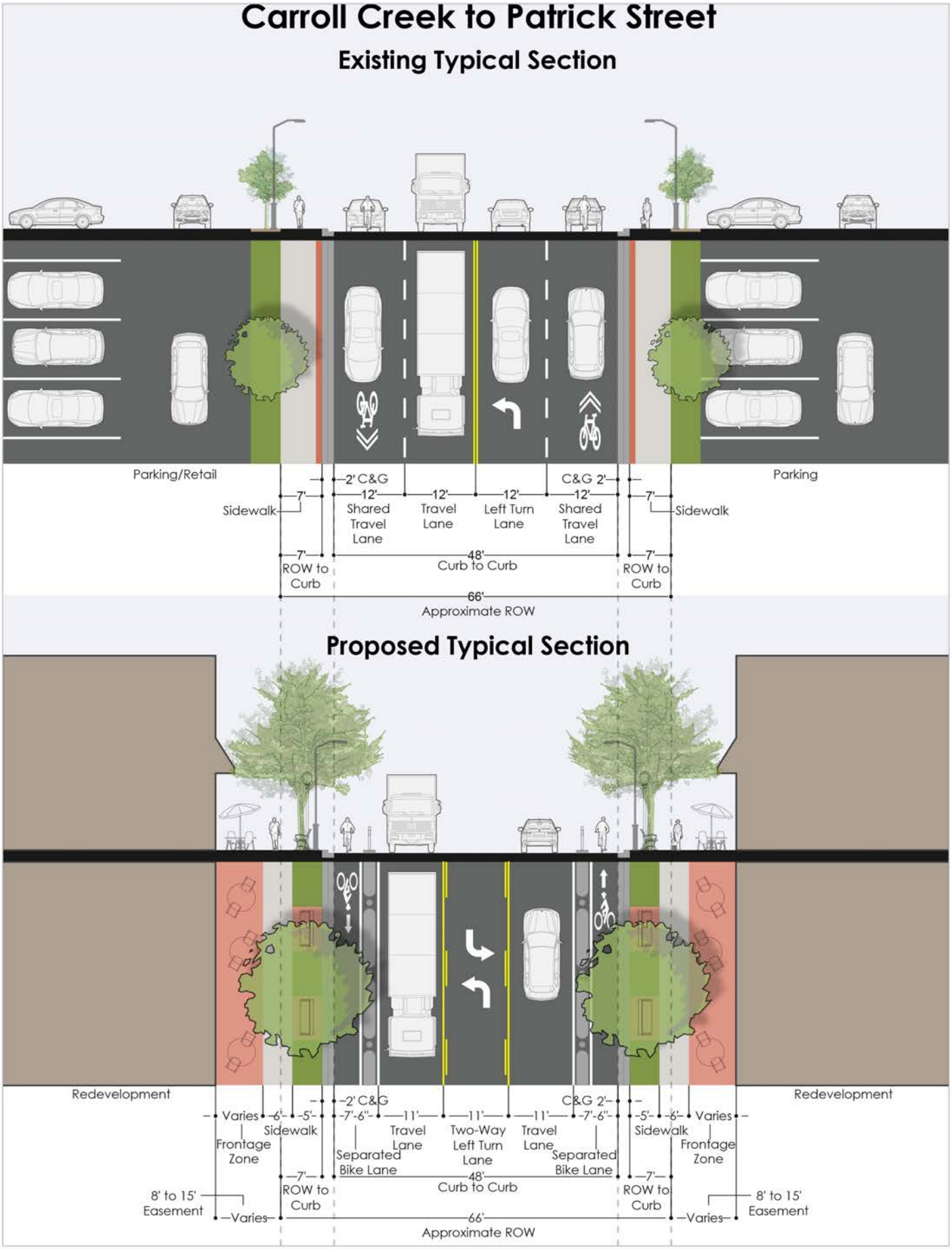


Figure 5.19: Existing and Proposed Typical Section - Carroll Creek to Patrick Street

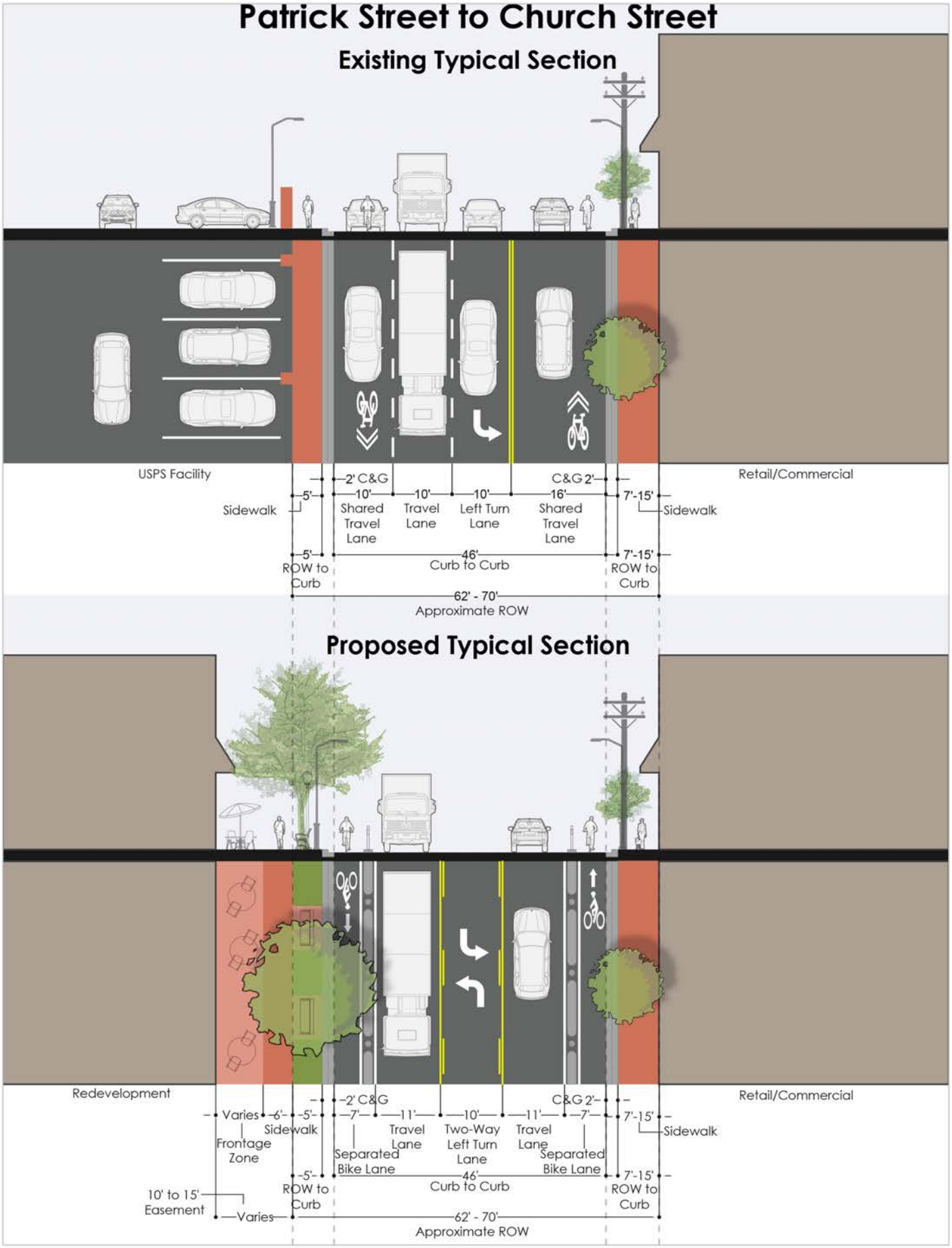


Figure 5.20: Existing and Proposed Typical Section - Patrick Street to Church Street

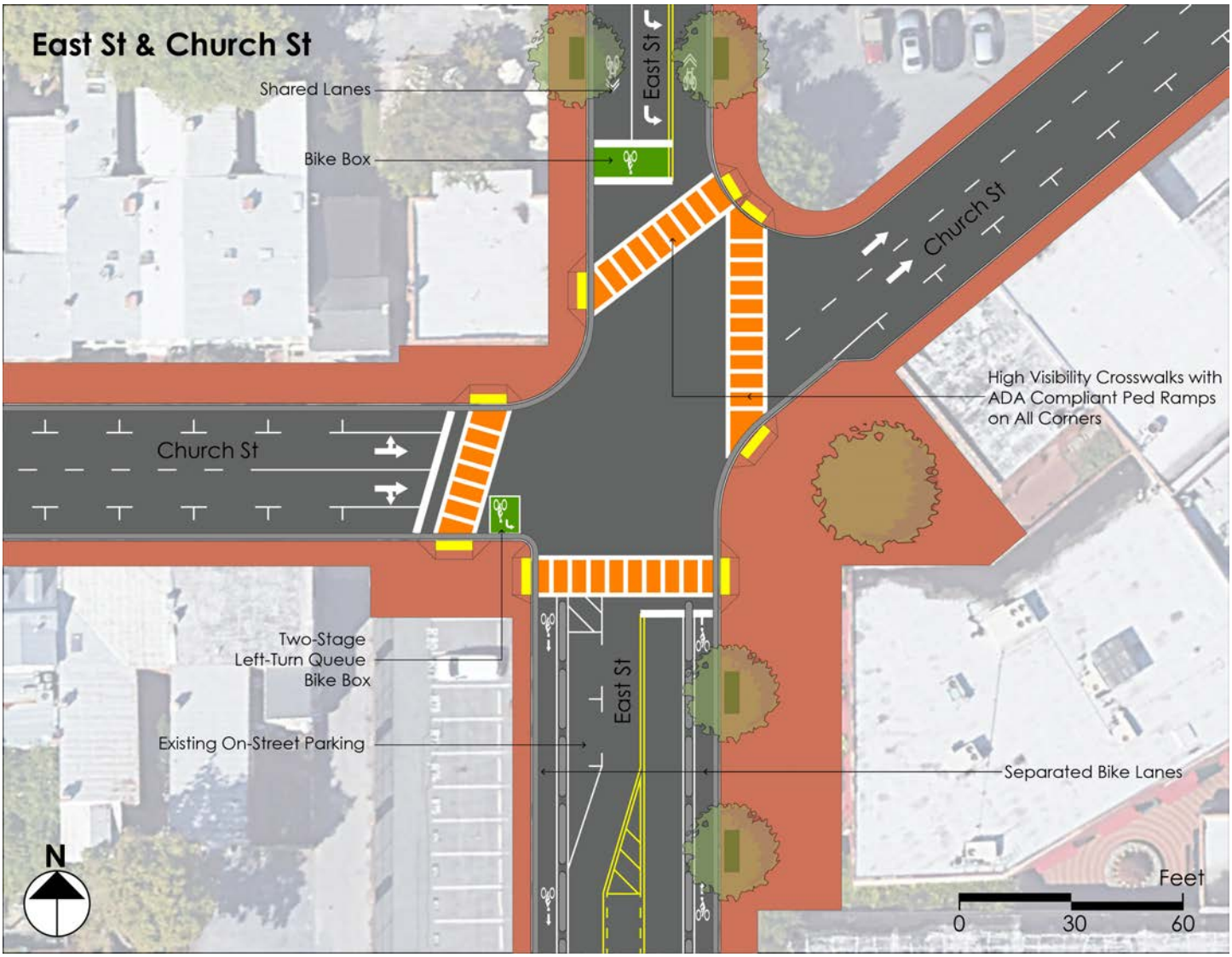


Figure 5.21: Proposed Intersection Design - East Street and Patrick Street

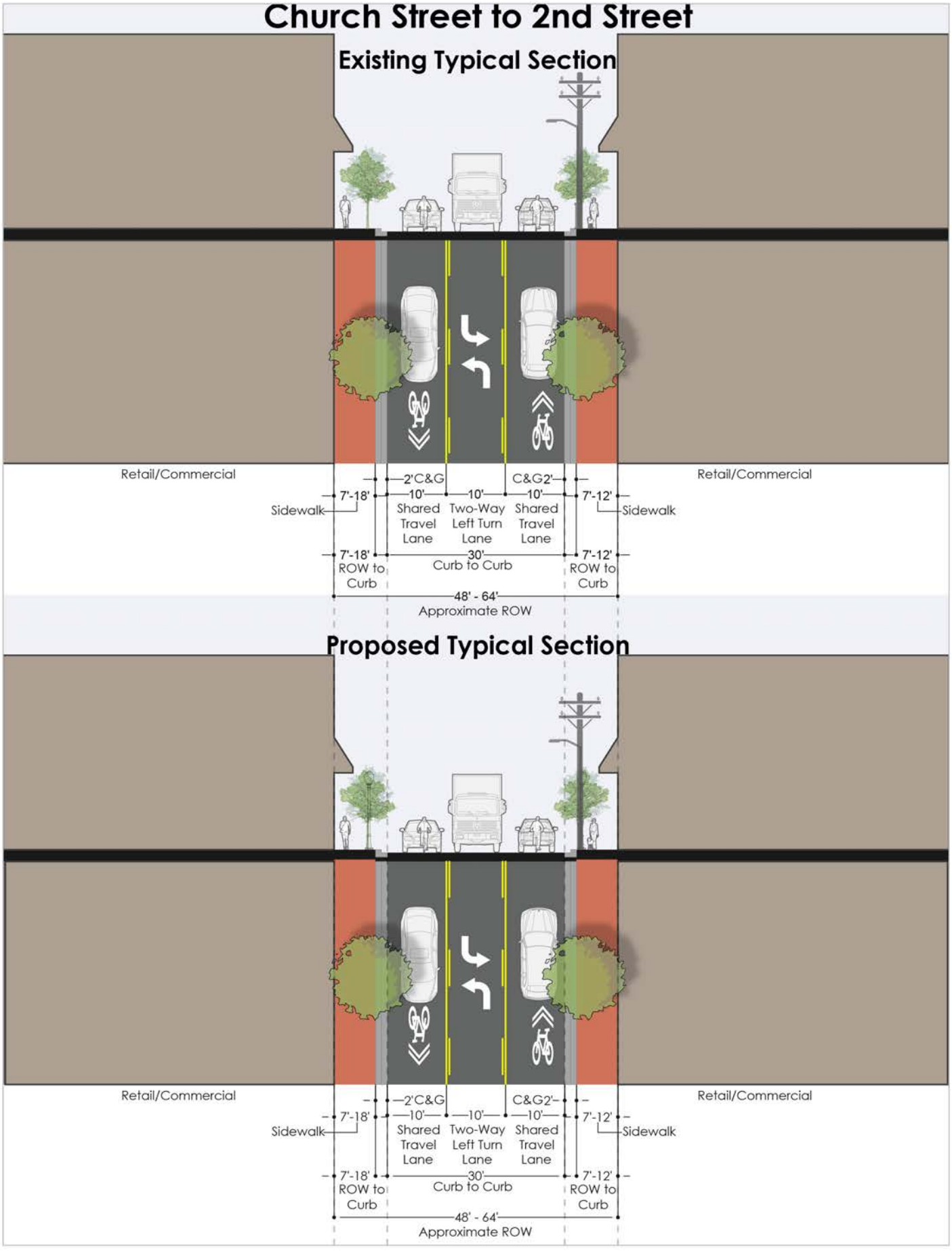


Figure 5.22: Existing and Proposed Typical Section - Church Street to 2nd Street (No Change)

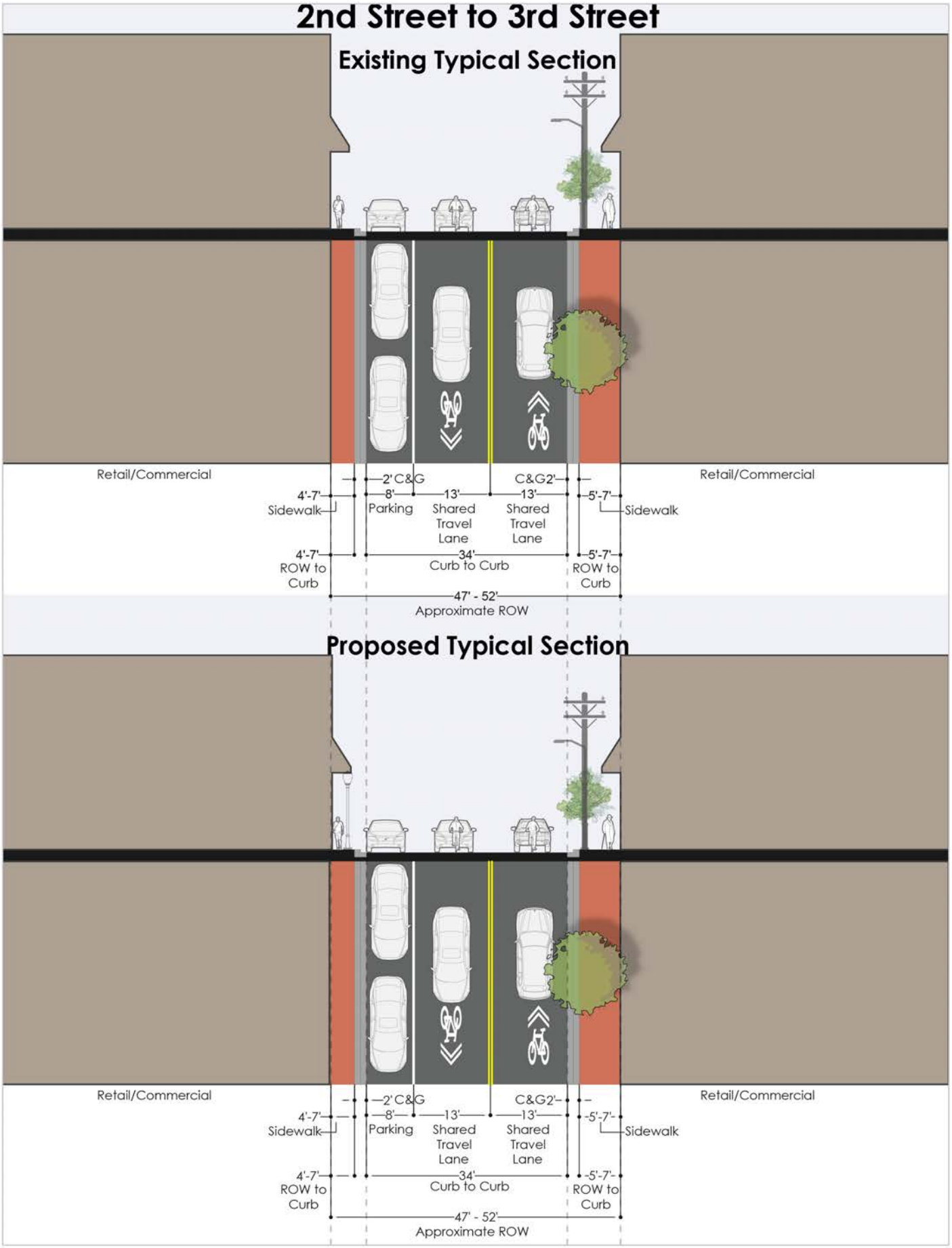


Figure 5.23: Existing and Proposed Typical Section - 2nd Street to 3rd Street (No Change)

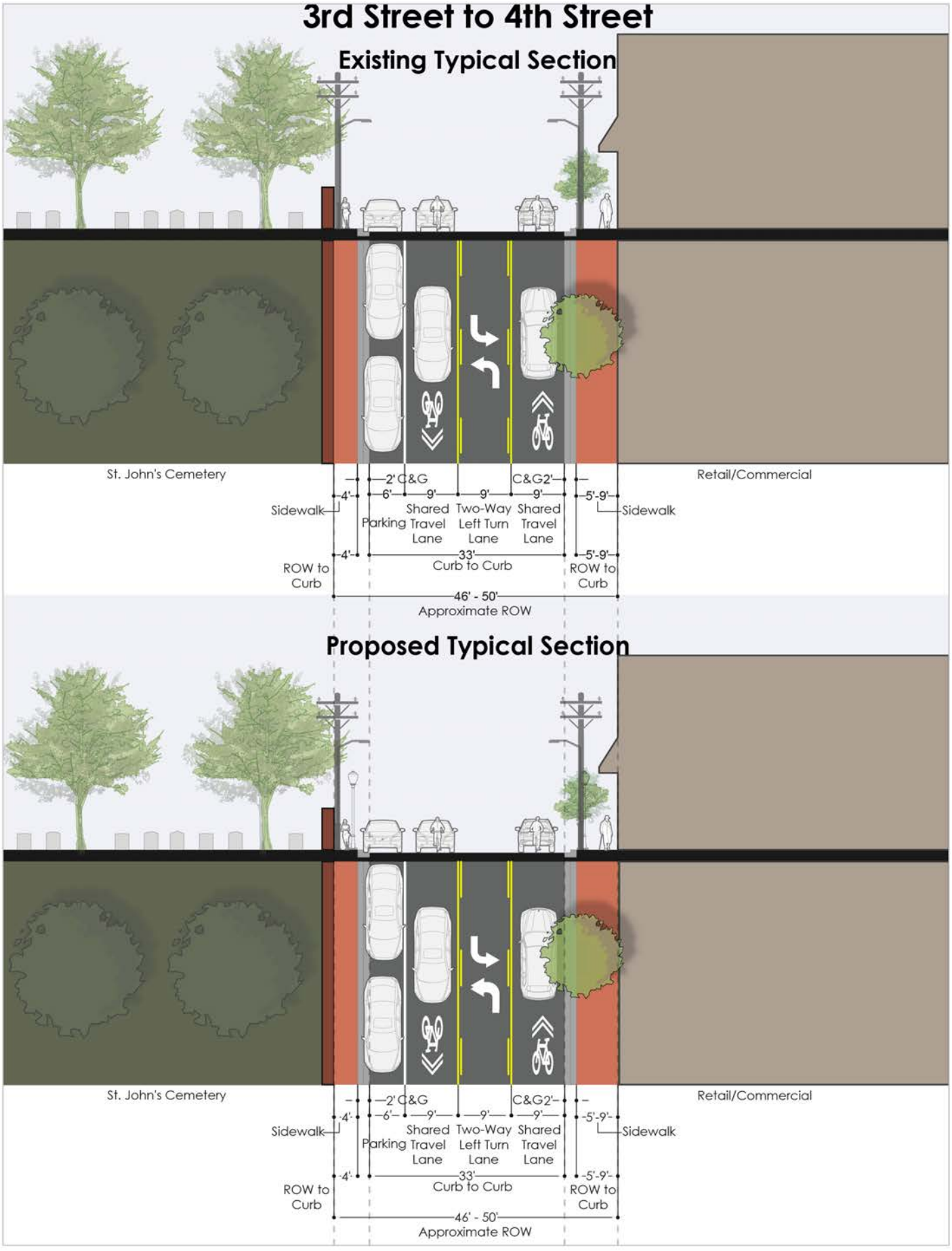


Figure 5.24: Existing and Proposed Typical Section - 3rd Street to 4th Street (No Change)

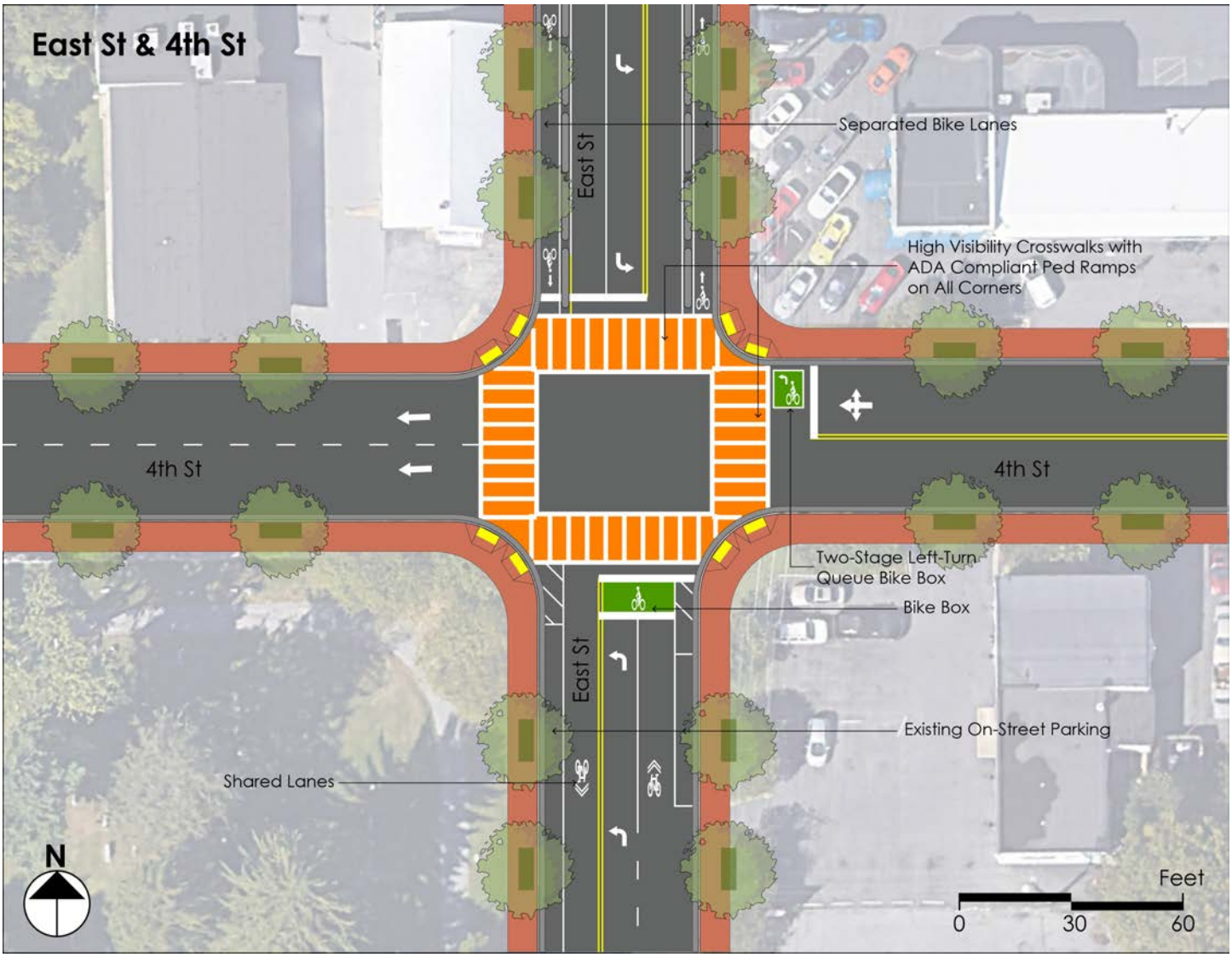


Figure 5.25: Proposed Intersection Design - East Street and 4th Street

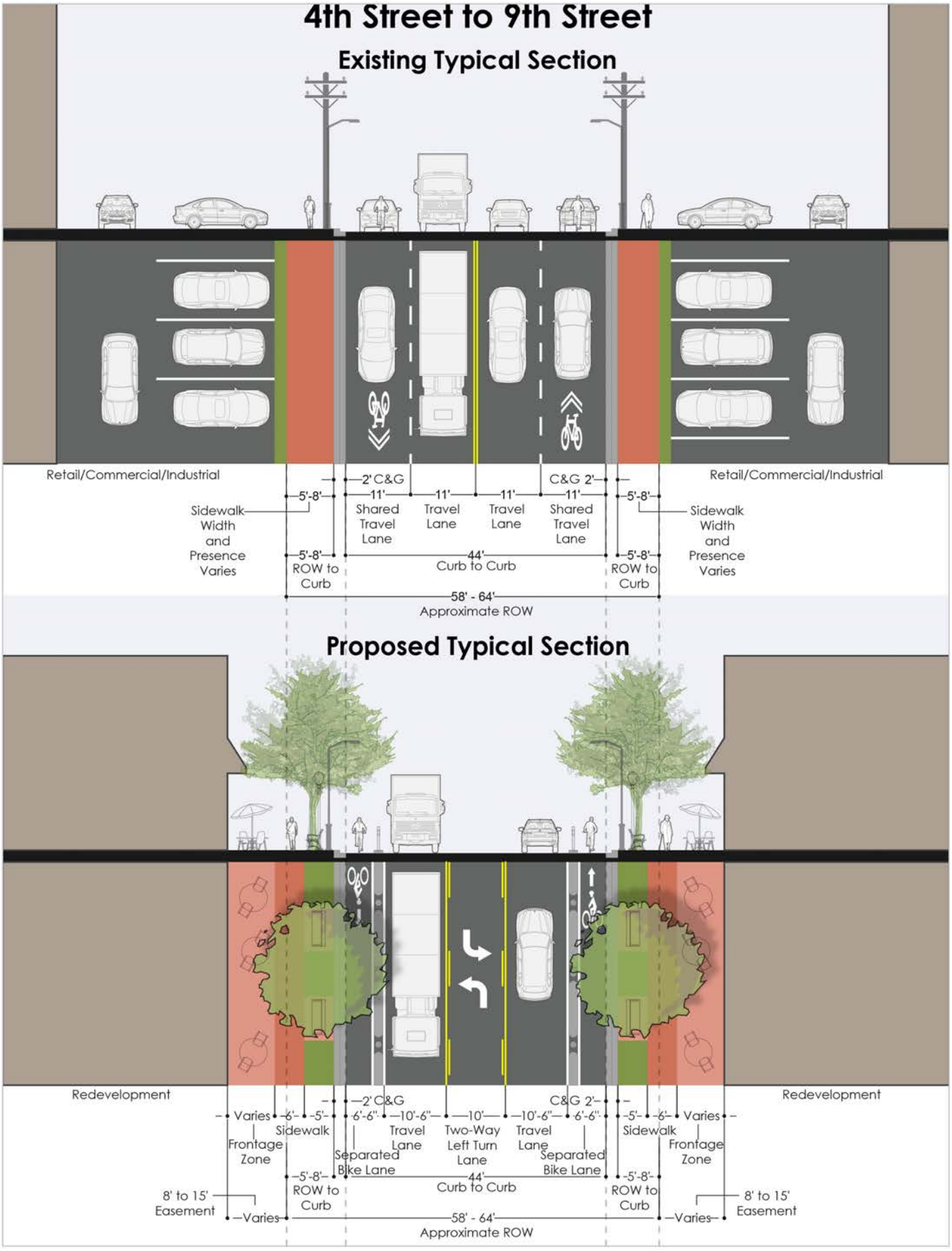


Figure 5.26: Existing and Proposed Typical Section - 4th Street to 9th Street

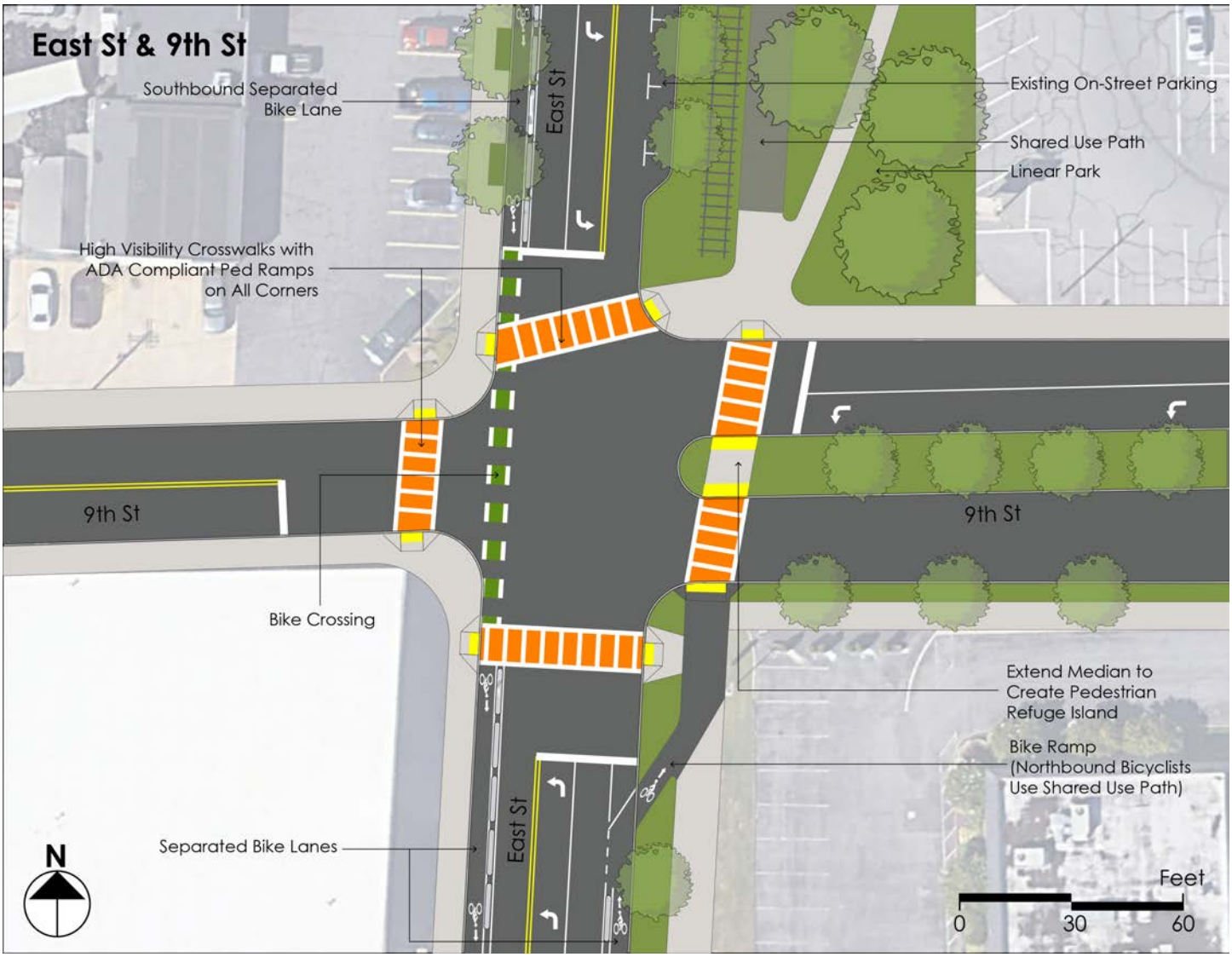


Figure 5.27: Proposed Intersection Design - East Street and 9th Street

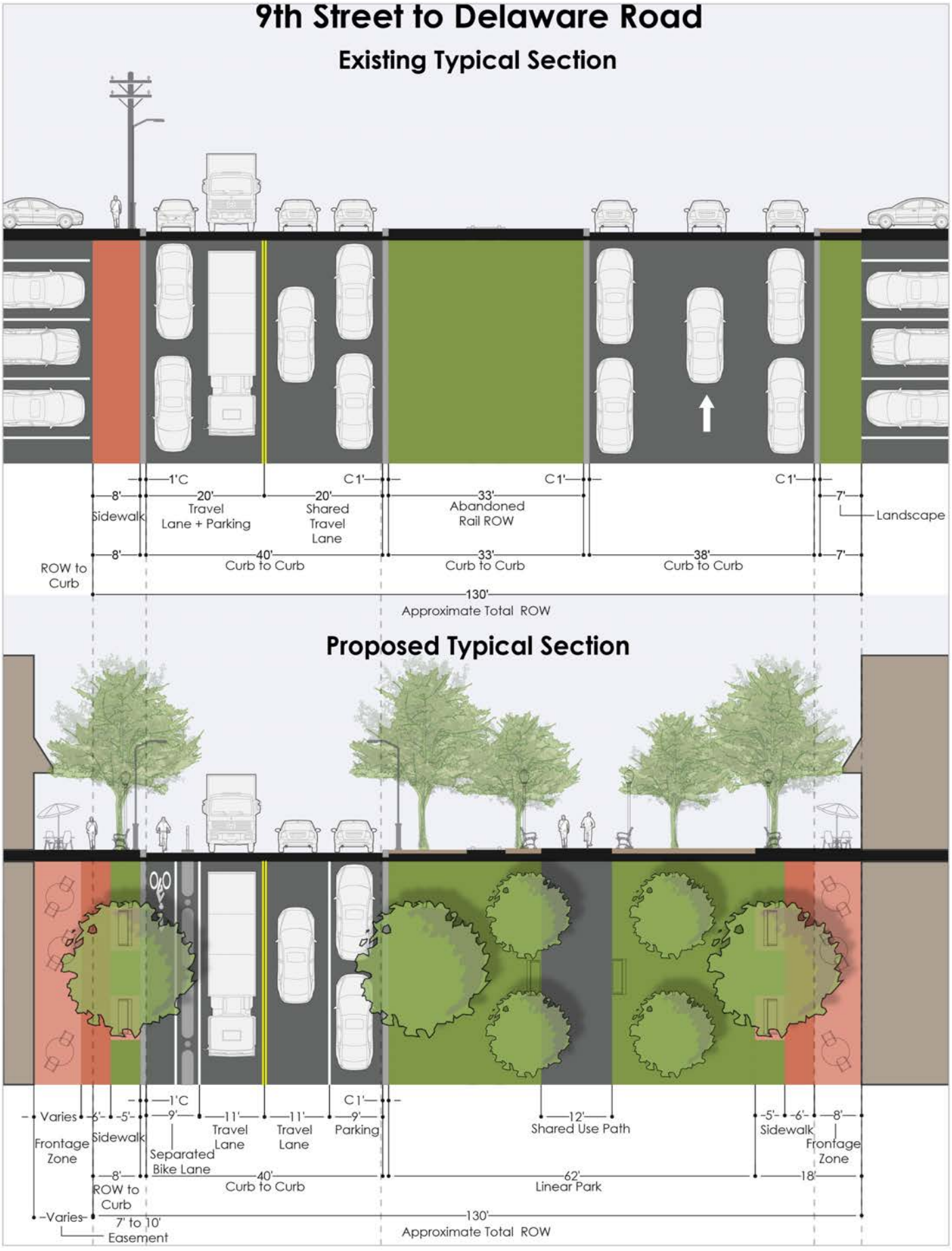


Figure 5.28: Existing and Proposed Typical Section - 9th Street to Delaware Road

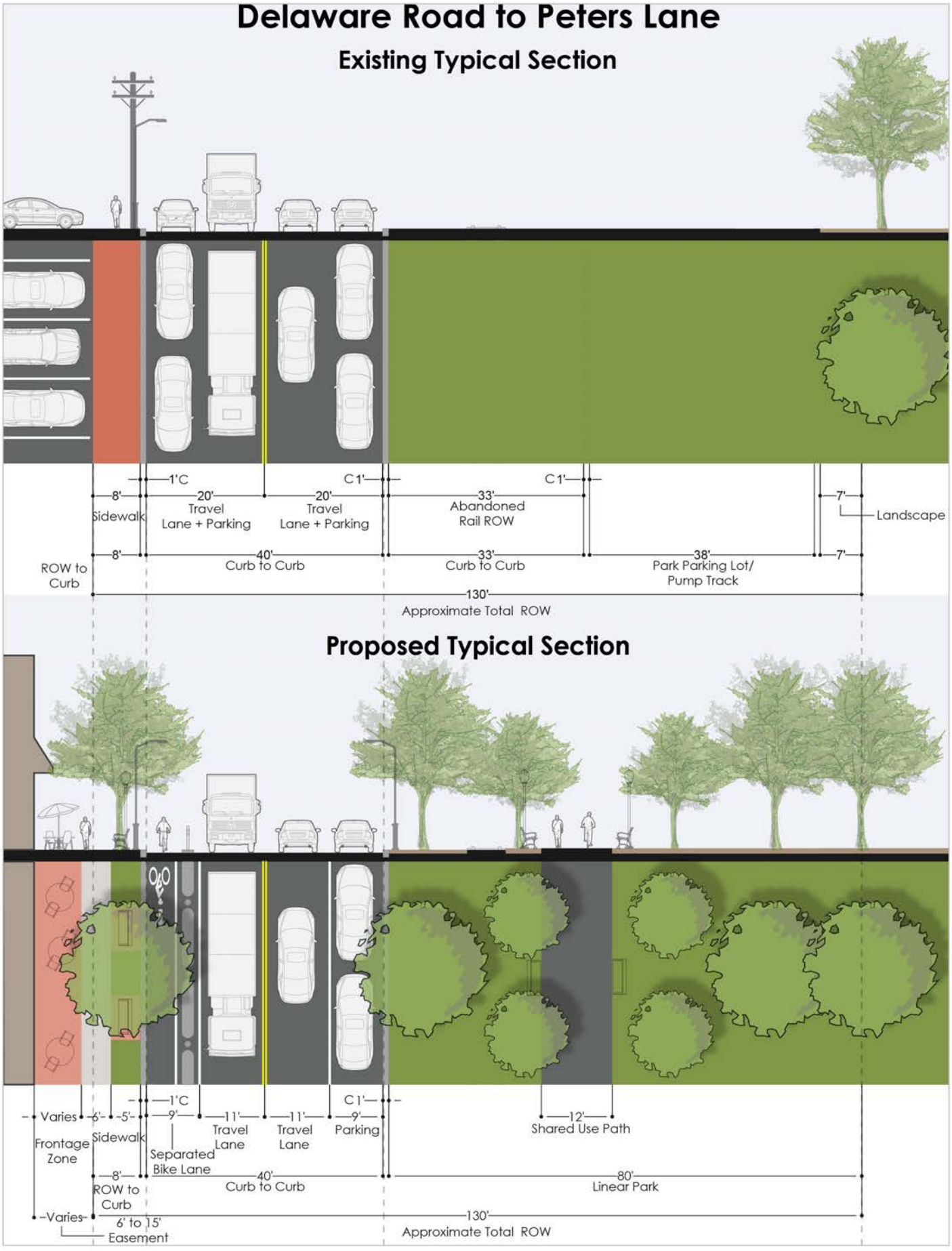


Figure 5.29: Existing and Proposed Typical Section - Delaware Road to Peters Lane

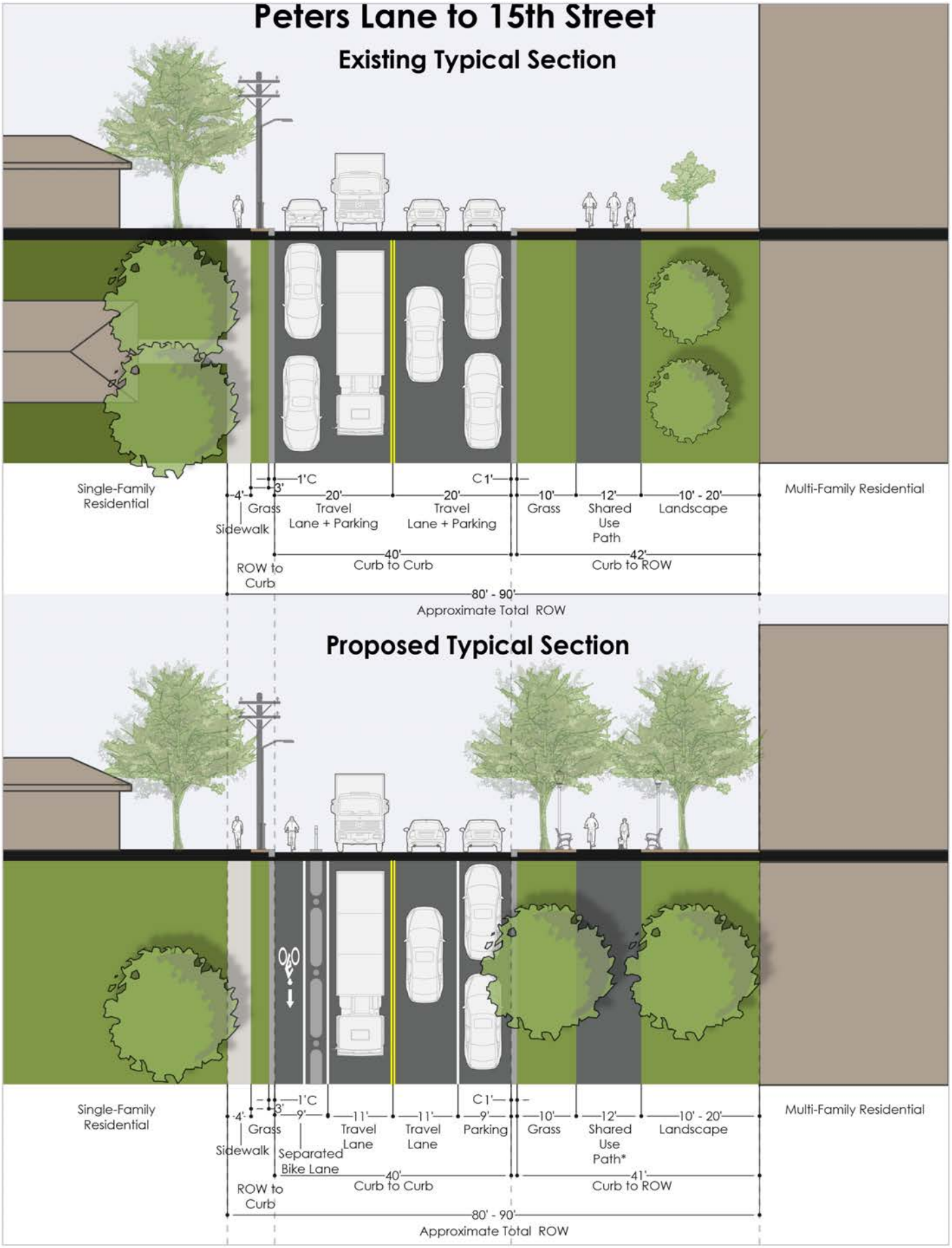


Figure 5.30: Existing and Proposed Typical Section - Peters Lane to 15th Street

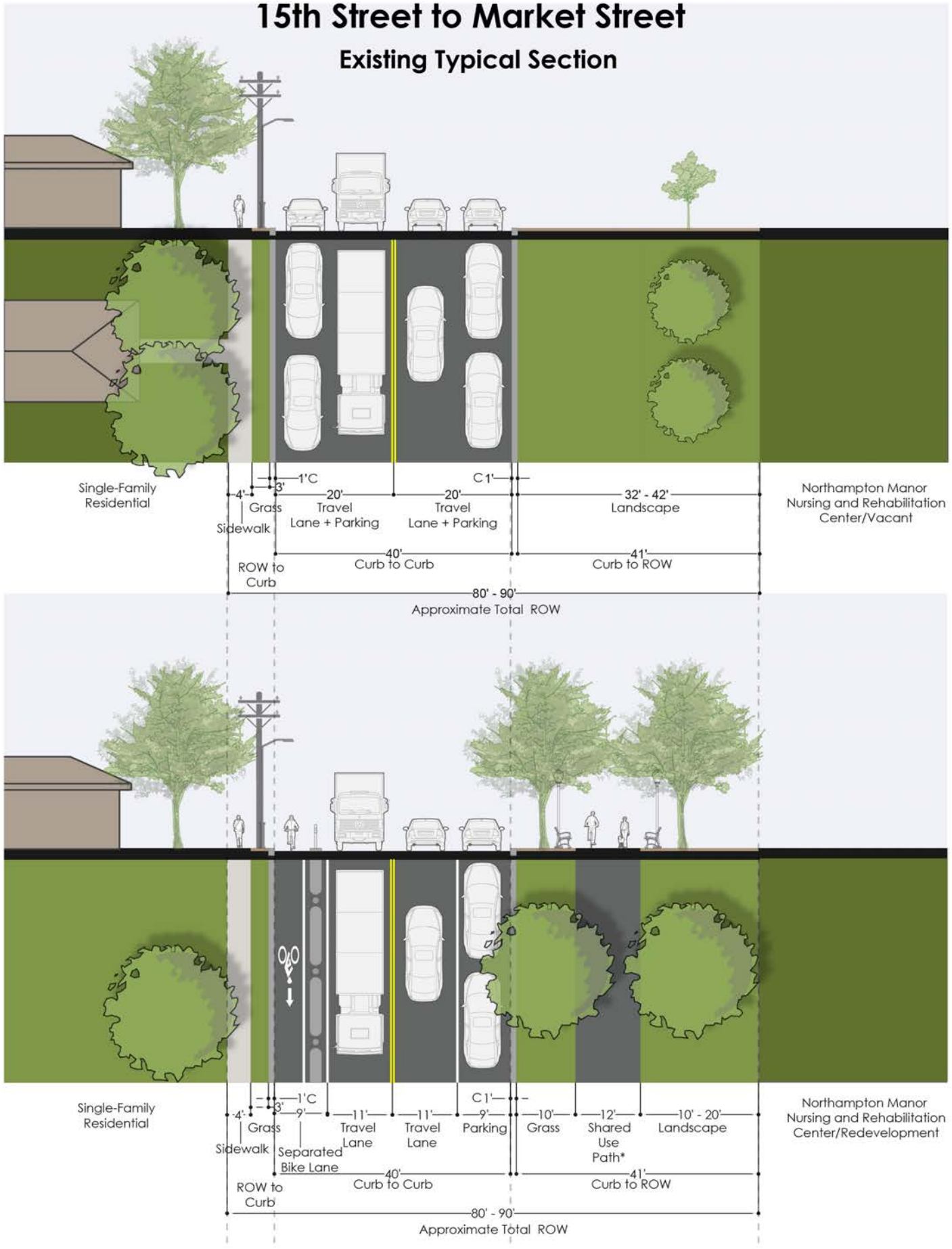


Figure 5.31: Existing and Proposed Typical Section - 15th Street to Market Street

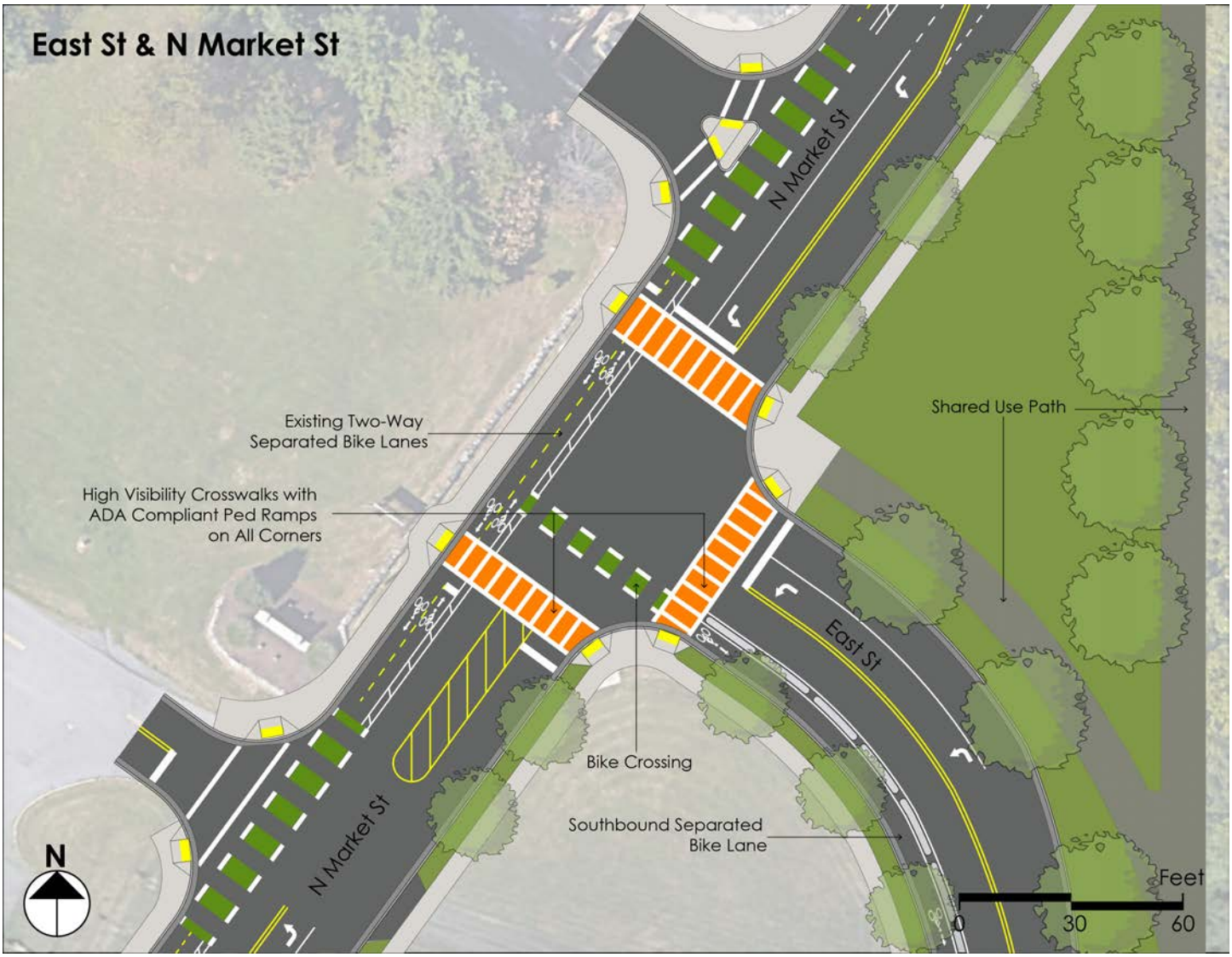


Figure 5.32: Proposed Intersection Design - East Street and Market Street

Urban Design Framework

The revitalization of underutilized properties, infill of vacant sites, and the preservation of historic structures can be catalytic in creating a diverse built environment tied together by a cohesive public realm. The redesign of East Street provides a unique opportunity to implement the vision for creating a vibrant, comfortable pedestrian environment along the corridor. This study takes a comprehensive approach to district-wide land use and connectivity to strengthen not only the character and function of East Street but also explore district-wide improvements that include the following elements:

- Corridor Enhancements
  Create multimodal, safe, beautiful, & sustainable streetscape environments along existing streets.
- Gateways & Nodes
  Evoke community identity at key orienting places such as intersections of primary streets that may include civic art, neighborhood markers, or other signature features.
- Future Building Frontages
  Encourage active ground floor uses and pedestrian-oriented frontages along sidewalks.
- Future Street Connectivity Opportunities
  Emphasize a connected walkable grid of streets that unify existing and future development.
- Greenway & Parks
  Provide a network of open spaces and non-vehicular corridors such as trails.

Specific recommendations related to the elements above are illustrated on the adjacent page.

Figure 5.33: Streetscape walking zone and elements

Figure 5.34: Streetscape furnishings and placemaking elements

Figure 5.35: Frontage zone activation

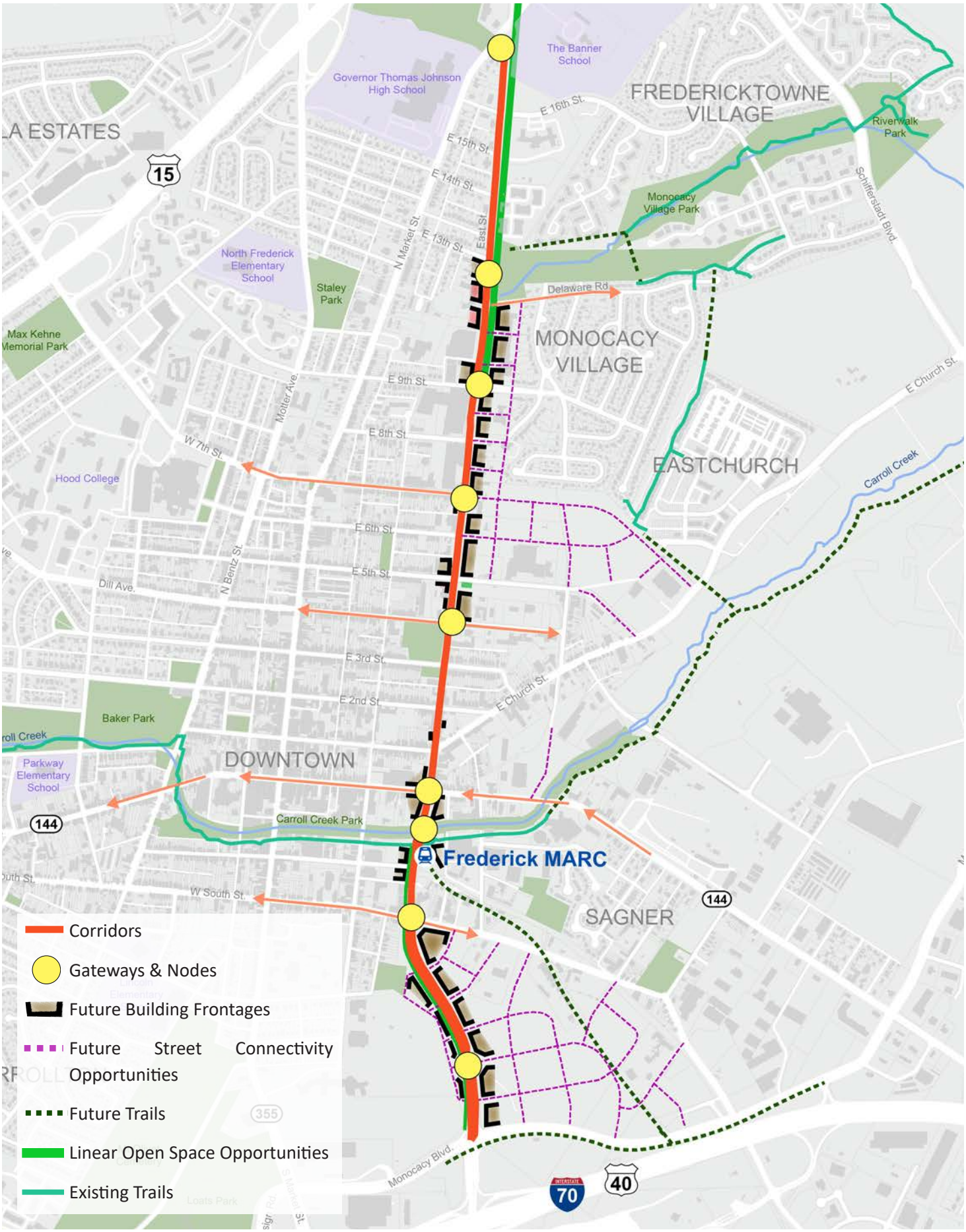


Figure 5.36: Urban Design Framework diagram

Monocacy Village Shopping Center & Linear Park

Portions of the East Street corridor are automobile-oriented that feature aging commercial areas setback far from the street with little in the way of pedestrian amenities. The Monocacy Village Shopping Center is a quintessential example of this development pattern representing an opportunity to envision the site as a catalyst for change that transitions suburban, sprawling development patterns into walkable, mixed-use destinations.

To realize this vision, a concept plan was developed that includes improvements along the East Street corridor. Additional enhancements such as the closure of the service street between 9th Street and Delaware Road can facilitate the development of a shared-use path and linear public park that extends the Monocacy Village Park along the corridor. The linear park presents an opportunity to integrate placemaking elements such as historic interpretation (particularly related to the railroad and industrial context of the corridor), storytelling, civic art, park programming, flexible open space, and other elements that establish a civic node along East Street.

Furthermore, the concept of creating a walkable grid of streets was explored by breaking the large shopping center's site into three urban-scale blocks to support the urban infill of the site that would include structured, development wrapped parking.

Figure 5.38: Greenway placemaking

Figure 5.37: Open space activation

Figure 5.39: Monocacy Village Shopping Center (exiting conditions)

Figure 5.40: Monocacy Village Shopping Center redevelopment (conceptual plan)

Linear Park Inspirational Images

Greenway

Interactive play / water features

Green infrastructure

Outdoor dining

Historical interpretation

Figure 5.41: Linear park precedent images

Civic art & placemaking elements

Enhanced Streetscapes

Overall, the addition of sidewalks where they are missing, improvements of existing sidewalks, and enhanced bicycle improvements along the corridor will be transformative. The following illustrations represent examples of improvements at two locations along the corridor including 1) the intersection of East Street and 9th Street and 2) the crossing of East Street at Carroll Creek.

Figure 5.42: East Street at 9th Street (existing conditions)

East Street at 9th Street

East Street at this location will feature enhanced high-visibility crosswalks, ADA-compliant pedestrian ramps, and pedestrian signals to ensure safe and comfortable crossings along the corridor. The character and overall comfort of East Street will be enhanced by street trees and groundcover planting. The elimination of the service street between 9th and Delaware Avenue presents the opportunity to create a linear park that would include a greenway, open space, and programmed areas that further enhances the pedestrian experience along East Street.

Figure 5.43: East Street at 9th Street (concept illustration)

Figure 5.44: East Street at Carroll Creek (existing conditions)

East Street at Carroll Creek

Carroll Creek Park is a signature open space in the city that crosses the East Street corridor. Recommended improvements at this location include the addition of a raised pedestrian crossings or raised intersection at the existing bridge to emphasize pedestrian movements and to serve as a distinctive gateway into the historic core of the study area. Landscaped medians that include street trees and groundcover further accentuates the crossing by adding character, scenic value, and vertical form along the street.

Figure 5.45: East Street at Carroll Creek (concept illustration)

Streetscape Design Guidelines

The pedestrian realm can allow for many types of activities such as walking, gathering, and lingering. Frontage zones are located immediately adjacent to the building's facade. These zones function as an extension of the building's ground floor and should be a minimum of five feet wide. This zone should be paved adjacent to commercial ground floor uses but may be paved or planted adjacent to residential ground floor uses. The pedestrian through zone is dedicated exclusively to the movement of pedestrians. It must never be obstructed by furnishings or plantings. The amenity zone functions primarily to provide public amenities and comfort to the streetscape. This zone hosts street trees, groundcover planting, green infrastructure treatments, street lighting, bicycle

Typical Existing Condition

- 3.5-4.5' sidewalks
- 6-7' planted zone
- No bike lanes
- Undeveloped sites

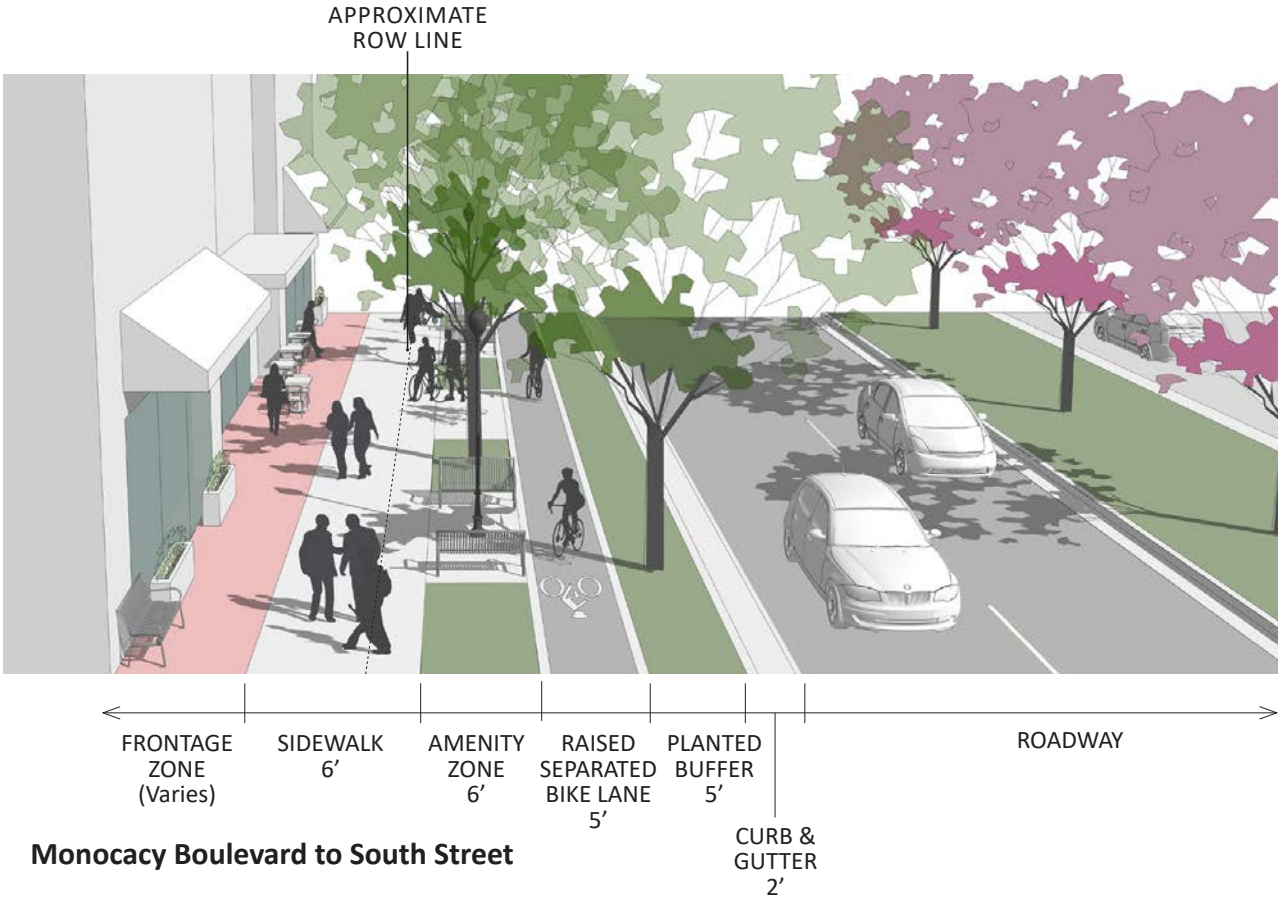


Figure 5.46: Monocacy Boulevard to South Street

parking, street furnishings, wayfinding, and public art. Separated bike lanes are buffered by raised curbs or planted areas from moving vehicles. Raised separated bike lanes are buffered from vehicles and located at the same elevation as adjacent sidewalks and amenity zone features.

The following diagrams illustrates the typical streetscape composition for the five varying segments of the East Street Corridor. The cross-sections included in the Corridor Design section of this chapter and this section provide details that can be codified as part of the Form Based Code for East Street corridor.

Typical Existing Condition

- 5-6’ sidewalks
- No amenity zone
- No dedicated bike lanes
- Developed/undeveloped sites

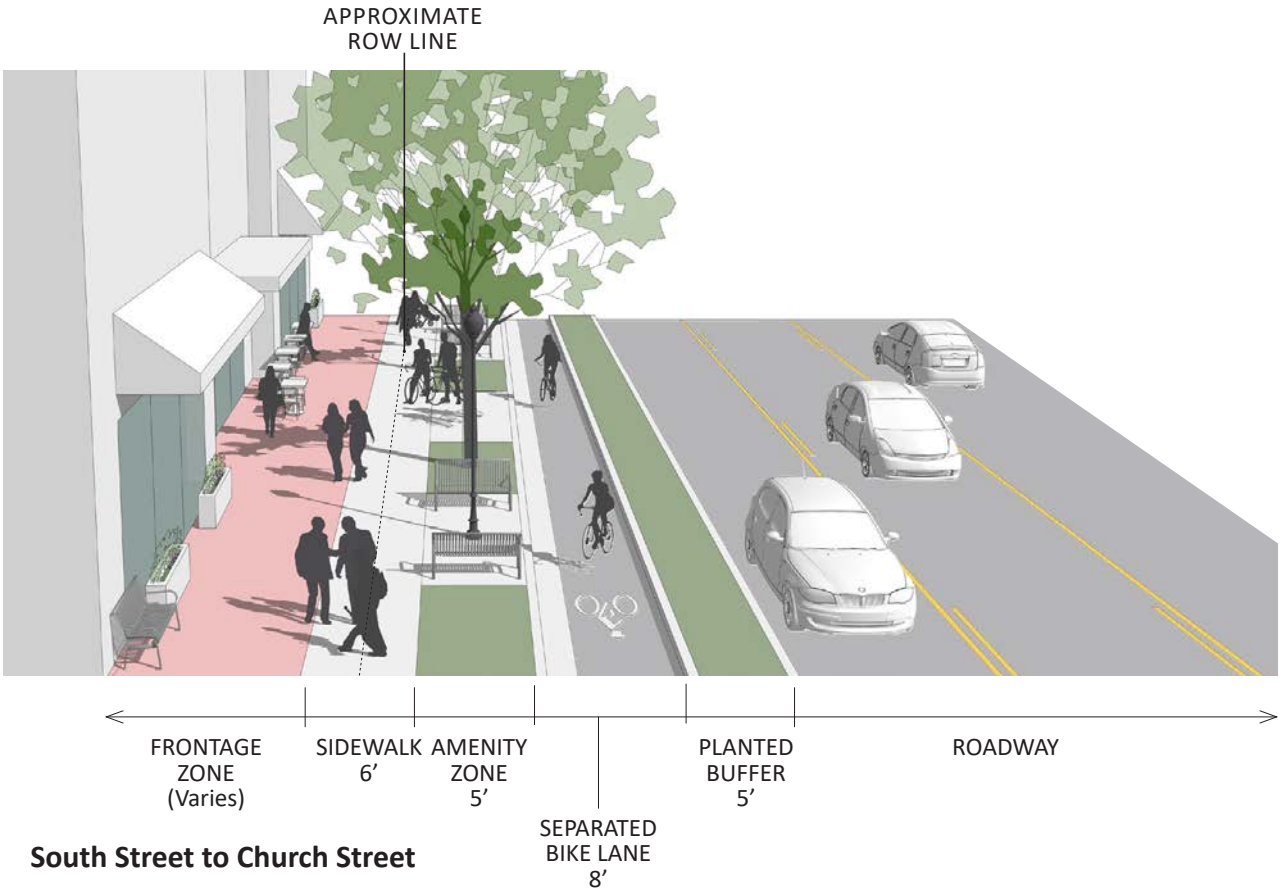
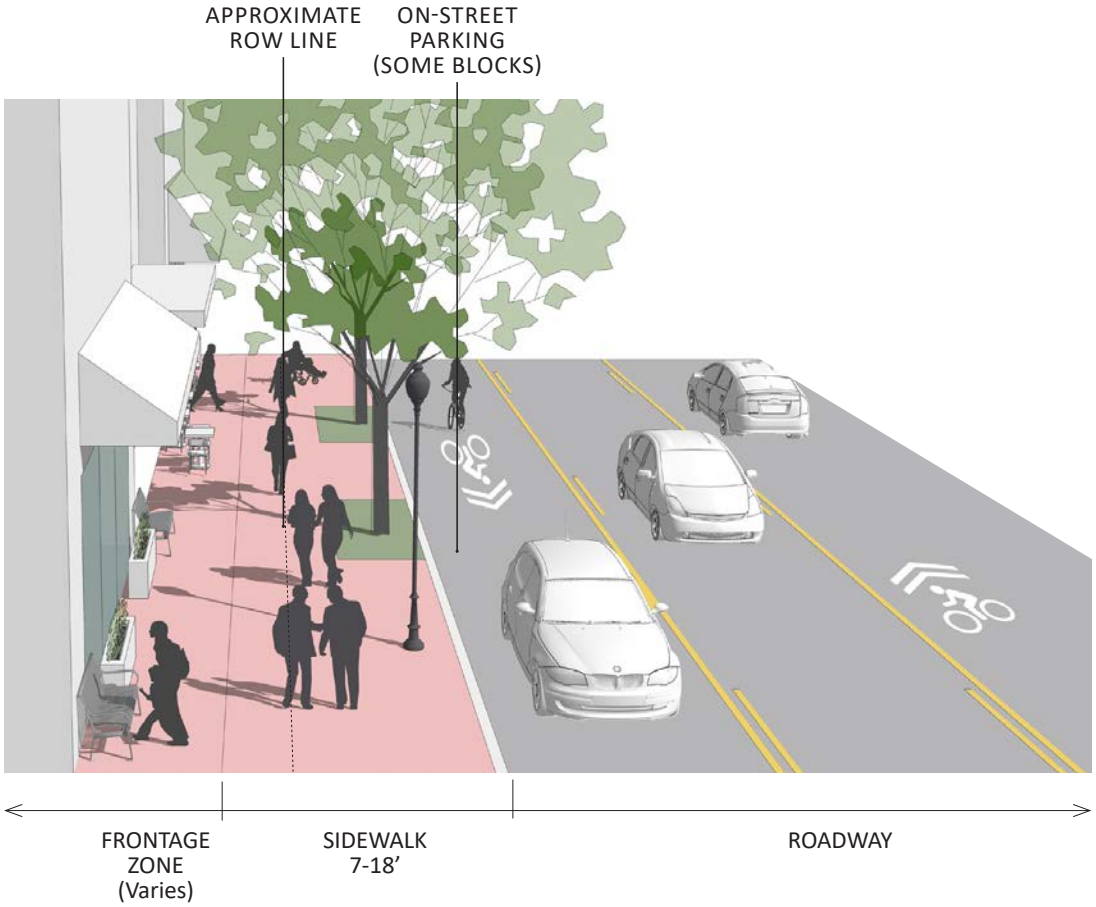


Figure 5.47: South Street to Church Street

Typical Existing Condition

- 4-6’ sidewalks
- Limited amenity zone
- Limited bike facilities
- Developed/undeveloped sites
- Limited building frontages
- Historic sites
- Overhead utilities

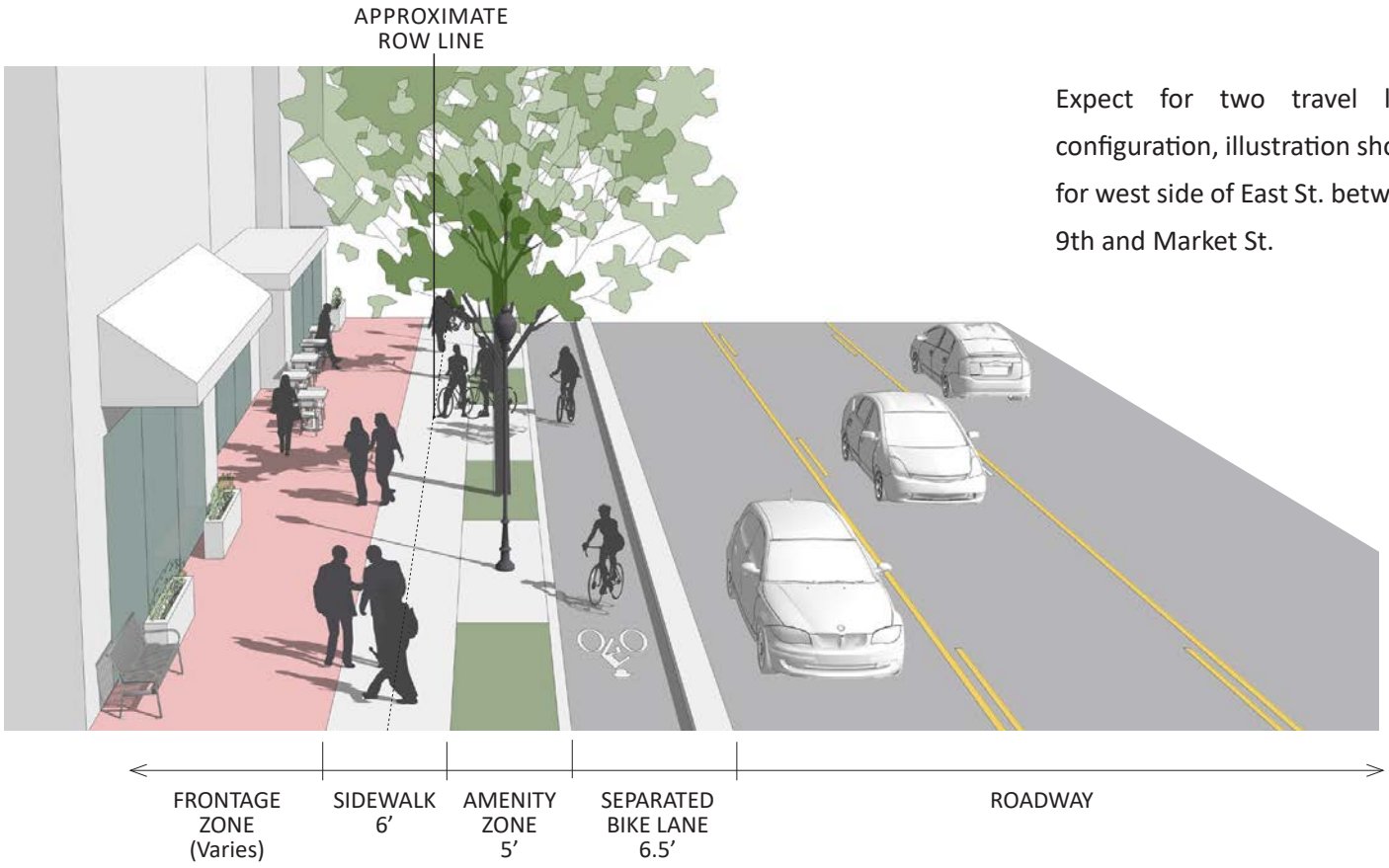


Church Street to 4th Street

Figure 5.48: Church Street to 4th Street

Typical Existing Condition

- 0-10’ sidewalks
- No amenity zones
- Limited bike facilities
- Developed/undeveloped sites
- Limited building frontages
- Overhead utilities



Expect for two travel lane configuration, illustration shown for west side of East St. between 9th and Market St.

4th St. to 9th Street & 9th Street and N. Market Street (West Side)

Figure 5.49: 4th St. to 9th Street and N. Market Street (west side)

Typical Existing Condition

- 0-12’ sidewalks/greenway
- No amenity zones
- Limited bike facilities
- Developed/undeveloped sites
- Limited building frontages
- Overhead utilities

9th Street to N. Market Street

Figure 5.50: 9th Street to N. Market Street


Liberty

6. Implementation

Implementation Framework

The transportation, urban design, place-making, and streetscape recommendations in previous chapters provide overall planning and design vision for re-imagining East Street as an urban multi-modal mixed-use corridor. The purpose of this chapter is to break down the larger corridor vision into specific projects for implementing the recommendations.

Table 5.4 provides an implementation framework. Table 5.4 lists all the recommended projects for implementation and includes project type, description, location, and priority. It is expected that the respective City agencies will need to take the lead to advance these recommendations toward engineering design and construction. The City could coordinate with land owners and developers as redevelopment occurs along the corridor to implement relevant recommendations.

Implementing the recommendations within this plan will require leadership and dedication on the part of a variety of public agencies and private stakeholders. It will be important to identify opportunities to coordinate with other city and regional projects, such as adding City's CIP process, street repaving, drainage improvements, etc., to implement relevant recommendations. Equally critical is coordination with community stakeholders, private land owners, and developers to identify opportunities to implement recommendations as part of redevelopment projects. In the absence of redevelopment, the City will need to take leadership and fund engineering design and construction of projects. The City may need to identify multiple sources of funds, such as the City's CIP and local, state, and federal grants. The Infrastructure Investment and Jobs Act (IIJA) passed in 2021 includes several new federal competitive grants. Local jurisdictions such as the City of Frederick are eligible to directly apply for many of these grant programs, including the following three grans :

- Reconnecting Communities Pilot Program
- Pilot Program for Transit-Oriented Development Planning
- Safe Streets and Roads for All (SS4A) Grant Program

Most of the recommendations identified in this plan are in line with the broader goals established for these grant programs and will be eligible projects. Almost all of these state and federal grant programs require some local funding match.

Table 5.5: Recommended Projects for Implementation

Project No.	Project Type	Location	Description	Requires Additional ROW/Private Property Easement	Priority
P-1	Pedestrian	Laboring Sons Alley to 9th Street (West Side)	Build 6 feet-wide clear sidewalk (Add 5 feet-wide landscape buffer between sidewalk and curb and 5 feet to 10 feet wide building frontage zone wherever and whenever redevelopment occurs)	No (For 6 feet-wide sidewalk back of curb) Yes (8 feet to 15 feet additional ROW/easement for landscape buffer and frontage zones)	Near Term/ Redevelopment
P-2	Pedestrian	200 feet north of 16th Street to N Market Street (West Side)	Build 6 feet-wide clear sidewalk	Yes (2 feet to 5 feet additional ROW/easement)	Near Term/ Redevelopment
P-3	Pedestrian	Monocacy Boulevard to South Street (Both Sides)	Build 6 feet-wide clear sidewalk (Add 5 feet-wide landscape buffer between sidewalk and raised separated bike lane and 5 feet to 10 feet wide building frontage zone wherever and whenever redevelopment occurs)	Yes (8 feet to 15 feet additional ROW/easement for landscape buffer and frontage zones)	Long Term / Redevelopment
P/B-1	Pedestrian/ Bicycle	5th Street to Peters Lane East (East Side)	Build 12 feet-wide clear shared use path	No	Near Term/ Redevelopment

Table 5.4: Recommended Projects for Implementation (Cont.)

Project No.	Project Type	Location	Description	Requires Additional ROW/Private Property Easement	Priority
P/B-2	Pedestrian/ Bicycle	Adkins Alley to N Market Street (East Side)	Build 12 feet-wide clear shared use path	No	Near Term/ Redevelopment
P/B-3	Pedestrian/ Bicycle	Rail ROW spur between Monocacy Boulevard and Wisner Street, Carroll Creek, Other smaller Creeks, Monocacy Village Park	Conduct a feasibility study (ROW, environmental impacts, and impact to drainage and utilities) and develop concept and engineering design for a off-street trail network parallel to East Street.	N/A	Near Term
B-1	Bicycle	Monocacy Boulevard to South Street (Both Sides)	Build 5 feet-wide One-Way Raised Separated Bike Lanes in place of existing sidewalks	No (for Bike Lanes) Yes (For new sidewalks will require 8 feet to 15 feet additional ROW/easement for landscape buffer and frontage zones)	Long Term / Redevelopment
B-2	Bicycle	South Street to Church Street (Both Sides)	Build 5 feet-wide one-way separated bike lanes with 1.5 feet to 6 feet-wide concrete raised separator	No	Near Term
B-3	Bicycle	Church Street to 4th Street (Both Sides)	Shared Lanes	No	Near Term (Re-stripe Sharrow markings and add signs)

Table 5.4: Recommended Projects for Implementation (Cont.)

Project No.	Project Type	Location	Description	Requires Additional ROW/Private Property Easement	Priority
B-4	Bicycle	4th Street to 9th Street (Both Sides)	Build 5 feet-wide one-way separated bike lanes with 1.5 feet-wide concrete raised separator	No	Near Term
B-5	Bicycle	9th Street to N Market Street (West Side)	Build a 6 feet-wide southbound one-way separated bike lane with 3 feet-wide concrete raised separator	No	Near Term
C-1	Crossing	N Market Street and East Street Intersection	Signal with high-visibility crosswalks & ADA ramp upgrades (May need signal warrant analysis)	No	Near Term
C-2	Crossing	16th Street and East Street Intersection	High-visibility crosswalks & ADA ramp upgrades	No	Near Term (Currently in CIP)
C-3	Crossing	Peters Lane and East Street Intersection	Pedestrian Hybrid Beacon/ Signal with high-visibility crosswalks & ADA ramp upgrades (May need signal warrant analysis)	No	Near Term (Currently in CIP)
C-4	Crossing	Delaware Road and East Street Intersection	Pedestrian Hybrid Beacon/ Signal with high-visibility crosswalks & ADA ramp upgrades (May need signal warrant analysis)	No	Near Term (Currently in CIP)
C-5	Crossing	9th Street and East Street Intersection	High-visibility crosswalks & ADA ramp upgrades	No	Near Term (Currently in CIP)

Table 5.4: Recommended Projects for Implementation (Cont.)

Project No.	Project Type	Location	Description	Requires Additional ROW/Private Property Easement	Priority
C-6	Crossing	8th Street and East Street Intersection	Pedestrian Hybrid Beacon/ Signal with high-visibility crosswalks & ADA ramp upgrades (May need signal warrant analysis)	No	Near Term
C-7	Crossing	7th Street and East Street Intersection	Signal with high-visibility crosswalks & ADA ramp upgrades (May need signal warrant analysis)	No	Near Term
C-8	Crossing	5th Street and East Street Intersection	High-visibility crosswalks & ADA ramp upgrades	No	Near Term (Currently in CIP)
C-9	Crossing	4th Street and East Street Intersection	High-visibility crosswalks & ADA ramp upgrades	No	Near Term
C-10	Crossing	3rd Street and East Street Intersection	High-visibility crosswalks & ADA ramp upgrades	No	Near Term
C-11	Crossing	2nd Street	High-visibility crosswalks & ADA ramp upgrades	No	Near Term
C-12	Crossing	Church Street	High-visibility crosswalks & ADA ramp upgrades	No	Near Term
C-13	Crossing	Patrick Street	High-visibility crosswalks & ADA ramp upgrades	No	Near Term
C-14	Crossing	All Saints Street	Signal with high-visibility crosswalks & ADA ramp upgrades	No	Near Term (Currently in CIP)
C-15	Crossing	Carroll Creek Crossing at East Street	Add raised crosswalks/ tabled intersection	No	Long Term

Table 5.4: Recommended Projects for Implementation (Cont.)

Project No.	Project Type	Location	Description	Requires Additional ROW/Private Property Easement	Priority
T-1	Transit	• MARC Train Station/ Transit Center • Church Street and East Street intersection • 7th Street and East Street intersection • 9th Street and East Street intersection • Delaware Road and East Street intersection • Peters Lane and East Street intersection	Upgrade existing bus stops with the following amenities: • Bus stop sign • Shelter with bench and space for wheelchair • Pedestrian scale lighting • Real-time bus arrival information • ADA-compliant 5’ x 8’ landing pad • ADA-compliant pedestrian accessible route and ramp • Trash can • Space allocated for future bike-share and scooter-share wherever applicable	Unknown (Needs survey for each location)	Near Term/ Redevelopment (shelter, bench, and lighting) Long Term/ Redevelopment (Other amenities)
T-2	Transit	East Street between Church Street and 7th Street	Conduct a feasibility study to explore potential to add formal bus stops in the downtown area to ensure ADA-compliant bus stops with comfortable amenities.	N/A	Near Term/ Redevelopment
T-3	Transit	East Street between Monocacy Boulevard and South Street	Conduct a feasibility study to explore potential to add bus service and stops to serve Brick Works site.	N/A	Near Term/ Redevelopment

Table 5.4: Recommended Projects for Implementation (Cont.)

Project No.	Project Type	Location	Description	Requires Additional ROW/Private Property Easement	Priority
L-1	Open Space	East Street between 9th Street and Peters Lane	Create a linear park with green stormwater infrastructure, paved plazas, trails, and passive recreation areas	No	Long Term/ Redevelopment
O-1	Other	East Street between 7th Street and 8th Street (Dairy Maid Frontage)	Add warning signs to encourage pedestrians to cross to east side at 7th Street and 8th street intersection to avoid Dairy Maid Loading Dock	No	Near Term
O-2	Other	East Street between Monocacy Boulevard and N Market Street	Conduct a detailed corridor-wide traffic study to test the feasibility of a road diet along East Street.	No	Near Term
O-3	Other	City-Wide	Conduct a truck-traffic study to develop a formal truck route network system in the city.	N/A	Near-Term

Next Steps

This East Street Redesign corridor study was a high-level planning study that included conceptual design and planning recommendations. The City will need to undertake additional studies, advance projects through engineering design, and allocate or identify funding for implementation. It is expected that the project recommendations will be implemented over time as funding is identified and projects advance through the typical project development process. Some projects may change or evolve depending on feasibility. The implementation framework identifies near-term projects and recommendations that the City can advance over the next few years.

The following near-term Nest Steps were identified as part of this study:

- Continue to engage the community and stakeholders, especially in the east Frederick neighborhoods, to track the progress of recommendations in this study.
- Conduct additional feasibility studies to analyze traffic and truck circulation.
- Coordinate with any new development applicants on implementing relevant recommendations as part of redevelopment projects.
- Identify funding to advance public infrastructure projects through preliminary and final engineering design as well as construction.

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