Frank E. Rodgers Boulevard at Warren Street
Harrison, NJ

West Hudson Circulation & Connectivity Study

Existing Conditions Technical Memorandum

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HUDSON COUNTY NEW JERSEY

NJTPA

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TABLE OF CONTENTS

List of Figures

List of Tables

1. Introduction

The West Hudson Circulation and Connectivity Study analyzed the existing transportation conditions in the West Hudson study area comprising the Borough of East Newark, the Town of Harrison, and the Town of Kearny to improve accessibility and mobility for all road users, including pedestrians, bicyclists, transit riders, motorists, and trucks.

The study area is at the crossroads of a major metropolitan region with the City of Newark to the west and Jersey City and New York City to the east. Its geographic location between these metropolitan centers is spurring investment, redevelopment, and growth in all three study area municipalities.

While it is centrally located, the study area is separated from surrounding population and employment centers by both the Passaic and Hackensack Rivers to the east, west, and south and the Meadowlands to the northeast. These features help to define the study area but present both real, physical, and perceived barriers that can limit mobility. Improving connections and the ability of the transportation network to serve the study area will, therefore, be critical to supporting growth and development and enhancing the quality of life for East Newark, Harrison, and Kearny residents.

This memo presents a summary of the following thematic areas:

1. Existing plans, studies, and written resources at regional, state, county, and local levels
2. Case studies
3. Land use
4. Existing transportation network

Each section herein summarizes relevant data, both quantitative and qualitative, and establishes key takeaways relevant to circulation in the West Hudson study area.

The West Hudson Circulation and Connectivity study is funded through the North Jersey Transportation Planning Authority's (NJTPA's) Subregional Studies Program (SSP), which assists subregions in refining and developing transportation strategies rooted in the NJTPA's Long Range Transportation Plan (LRTP).

2. Literature Review

This literature review for the West Hudson Circulation and Connectivity Study was conducted to understand existing conditions and best practices and inform study findings and recommendations. These resources provide historical context and background for public perceptions, goals, and objectives. Gathered plans and studies include those conducted by state, regional, county, and municipal entities. Multiple documents concerning Newark and Essex County were reviewed due to the City's and County's proximity to the West Hudson study area. Each of the resources are listed in Table 1 chronologically and summarized in this document. The order of the documents in Table 1 matches the order in which the documents are summarized.

Table 1 - Existing/Ongoing Plans and Studies

Year	Plan	Geography	Lead Agency
2008	New Jersey's Long-Range Transportation Plan	State	NJDOT
2011	New Jersey Out and About: A Guide to Sustainable Local Circulation Planning	State	NJ OPA
2019	Hackensack Meadowlands District Master Plan Update 2020	Regional	NJSEA
2021	Plan 2050: People, Transportation, Opportunity	Regional	NJTPA
2021	NJ TRANSIT Newbus Newark	Regional	NJ TRANSIT
2023	North Jersey Regional Active Transportation Plan	Regional	NJTPA
Ongoing	NJ TRANSIT Newbus Hudson	Regional	NJ TRANSIT
2012	Hudson County Complete Streets Policy	County	Hudson County
2016	Hudson County Master Plan Re-Examination Report	County	Hudson County
2020	Hudson County Comprehensive Economic Development Strategy 2020-2024	County	Hudson County
2023	Hudson County Truck Routes Assessment	County	NJTPA
2023	Essex County Transportation Plan	County	Essex County
2023	Passaic River Greenway Plan	County (multiple municipalities)	Hudson County
Ongoing	Hudson County's Electric Vehicle Infrastructure Plan	County	Hudson County
Ongoing	Hudson County Vision Zero Action Plan	County	Hudson County
2019	Newark Downtown Circulation Improvement Study	Neighborhood	NJTPA
2020	Town of Harrison 2020 Master Plan Reexamination Report	Municipal	Harrison
2021	Borough of East Newark Master Plan Reexamination Report	Municipal	East Newark
2022	Kearny Master Plan Update: Volume 1	Municipal	Kearny
2022	Newark360 Master Plan	Municipal	Newark
2024	Harrison Complete Streets Policy and Implementation Plan	Municipal	Harrison
2024	Bridge Street Bridge – Local Preliminary Engineering (PE) Phase	Roadway	Essex/Hudson Counties
Ongoing	Frank E. Rodgers Boulevard Safety Improvements	Roadway	Hudson County
Ongoing	Clay Street Bridge Replacement over the Passaic River – Local Preliminary Engineering (PE) Phase	Roadway	Essex/Hudson Counties

2.1 State & Regional Plans

2.1.1 New Jersey's Long Range Transportation Plan

New Jersey's Long-Range Transportation Plan was published in October 2008 by the New Jersey Department of Transportation and NJ TRANSIT. The Plan recognizes various statewide trends, including population, employment, and freight growth, poor infrastructure conditions, and an expected increase in the demand for the transportation network. The Plan aims to anticipate future conditions, outline the issues that must be addressed, identify goals, policies, and actions, and ultimately, set the direction for future investments. The Plan's vision and goals include expanding public transit, maintaining and renewing transportation infrastructure, respecting the environment, and increasing safety and security.

The Plan offers a vision for the entire State but does not provide any details specific to the West Hudson study area. An updated statewide Long-Range Transportation Plan is currently being developed. Many of the statewide trends identified in the Long-Range Transportation Plan may be applicable to the West Hudson study area, including concerns about freight growth and infrastructure conditions.

2.1.2 New Jersey Out and About: A Guide to Sustainable Local Circulation Planning

Published in February 2011 by the New Jersey Office for Planning Advocacy, New Jersey Out and About: A Guide to Sustainable Local Circulation Planning offers a guide for local officials interested in sustainable multi-modal circulation planning. The Guide offers steps to develop and adopt a sustainable circulation plan element. The Guide acknowledges that transportation and land use are inextricably linked, the need for efficiency in circulation, the negative impact of greenhouse gases, and the benefit of sustainable local circulation planning on public health. The Guide portends that "only reducing car trips and increasing the number of trips that people take by walking, biking, and taking public transportation will manage congestion in higher density areas." Additionally, the Guide recognizes the legal considerations of circulation planning in New Jersey, provides the methodology for a Transit Score developed by NJ TRANSIT, provides a list of suggested policies and guidelines, and discusses tools and strategies for implementation.

The Guide provides a consolidated resource to the three study area municipalities for what should be included in local circulation plans, topics to be considered in such a plan, and the importance of regional cooperation, the latter of which is evidenced by the development of this West Hudson Circulation Plan. The County and its municipalities can use the Guide to pursue infrastructure, development patterns, and policies that reduce automobile reliance and support public transit.

2.1.3 Hackensack Meadowlands District Master Plan Update 2020

The New Jersey Sports & Exposition Authority's (NJSEA) Hackensack Meadowlands District Master Plan Update 2020 was published in August 2019. The Plan provides an update of a 2004 Master Plan. NJSEA is the Hackensack Meadowlands District's regional planning and zoning agency, which encompasses 30.3 square miles and includes portions of 14 municipalities in Hudson and Bergen counties. NJSEA is charged with providing for the orderly development of the District, facilities for the sanitary disposal of solid waste, and protecting the District's natural environment. The Plan promotes a wider range of

transportation choices, including expanding mass transit opportunities to ease congestion and reduce greenhouse gas emissions, promoting safe and efficient pedestrian and bicycle circulation, and fostering evolving transportation technologies.

The District includes approximately 52 percent of the area of the Town of Kearny. The Town of Kearny has adopted an "opt-out" resolution that allows the Town to administer most of the zoning requirements of the NJSEA. The Plan recognizes that there has been minimal population growth in Kearny since 1960. The Plan identifies four redevelopment areas in the District's portion of Kearny:

- Kingsland Redevelopment Area – 1,363 acres in four municipalities, the area's Redevelopment Plan intends to create a Sustainable Energy Park on a former landfill to accommodate warehousing, distribution, and industrial and commercial uses.
- Belleville Turnpike Redevelopment Area – 78 acres near Barszcewski Street in Kearny, the area's Redevelopment Plan is designed to accommodate uses that support the efficient movement of goods given the area's proximity to Port Newark and Elizabeth Marine Terminal.
- Kearny Area Redevelopment Area – 445 acres encouraging industrial and commercial ratables, renewable energy facilities, environmental closure of former landfills, preservation of wetlands, and promotion of recreational opportunities.
- Koppers Coke Peninsula Redevelopment Area – 367 acres with many properties in various stages of environmental remediation. The Redevelopment Plan permits a variety of land uses (primarily industrial) while also providing opportunities for service to support planned new industry within the area.

The Plan's circulation section focuses on the planning and regulatory framework, mobility, and safety, and recognizes that roadways traversing the District are among the most heavily traveled in the nation. Provided data concerning Kearny includes traffic volumes for Route 1 Truck, the number of annual crashes in the Town, and the Town's average annual daily traffic. Additionally, NJSEA has implemented the Meadowlands Adaptive Signal System for Traffic Reduction (MASSTR) which incorporates all of the District's traffic signals (including in Kearny) into a network of self-adaptive signals to efficiently reduce roadway congestion, delay, travel time, fuel consumption, and airborne emissions.

The Hackensack Meadowlands District Master Plan Update offers regional consideration of the needs and demands within the Meadowlands District, emphasizing the regional connections not only between the study area and other Hudson County communities but portions of Bergen County to the north. Each of the redevelopment areas identified offer a location for funneling development away from environmentally sensitive areas and to areas with or capable of having the necessary infrastructure to accommodate growth.

2.1.4 NJTPA Plan 2050: People, Transportation, Opportunity

The North Jersey Transportation Planning Authority's (NJTPA) Plan 2050: Transportation, People, Opportunity is the NJTPA's long-range transportation plan (LRTP) published in November 2021. The NJTPA's LRTP must be updated every four years as a condition of receiving federal transportation funding. The NJTPA's activities focus primarily on the earliest stages of project development where problems are

explored, approaches to solutions identified, plans developed, the public consulted, financing arranged, and approvals and agreements gained among key parties. The Plan sets out a vision for the future development of the region's transportation system, drawing important lessons from the pandemic that reshaped transportation and many aspects of society, and prioritizes safety, accessibility, equity, active transportation, climate change, transportation technologies, and freight.

A review of existing conditions acknowledges regional congestion, transit funding issues, and aging infrastructure. The Plan's financing plan reviews three funding scenarios with various funding amounts and growth rates. All three scenarios support state of good repair improvements and adding capacity for transit, highway, non-motorized transportation, and expansion.

The Town of Harrison is specifically mentioned in relation to the growth it experienced after the recession as well as PATH facility and operational upgrades. Kearny is mentioned in relation to a recommendation to explore development and funding for the 9-mile Essex-Hudson Greenway, which would pass through Kearny.

The plan includes a project index of current and future candidate projects that have been identified through the metropolitan planning process and whose costs can be accommodated based on the 28-year funding assumptions established in the Plan. Identified projects in the West Hudson study area are listed in Table 2 below.

The regional trends identified in the Plan are applicable to the West Hudson study area as well, emphasizing the importance of safety, equity, active transportation, freight, and other issues affecting West Hudson stakeholders. The identified future projects should be considered in developing recommendations that complement what is already planned.

Table 2 - Plan 2050 Identified Projects in the West Hudson Study Area

Timeframe	Project	DB Number	Category	YOE Estimate*
Near-Term (FY 2022-FY 2025)	Portway, Fish House Road/Pennsylvania Avenue, CR 659	97005B	Freight	$44.40
	Route 7, Kearny Drainage Improvements	93186	Road Preservation	$82.70
Mid-Term (FY 2026-FY 2031)	Clay Street Bridge over the Passaic River	N1402	Bridges	$64.20
	CR 508 (Bridge Street), Bridge over Passaic River	N1602	Bridges	$84.10
Projects Under Study	Central Avenue (CR 659) Bridge over Route 1&9T	18322	Bridges	NA
	Koppers Coke Access Road (Liberty Corridor)	N1702	Freight	NA

**Year of Expenditure Estimate in millions of dollars*

2.1.5 NewBus Newark

NJ TRANSIT completed the NewBus Newark planning effort in 2021 to study restructuring the local and intrastate bus network in the Newark area to better align with customer needs. This includes analyzing the performance of 38 local routes that carry 180,000 riders daily.

The initiative aims to work within funding and operational constraints to improve the efficiency of bus service, including reducing headways, decreasing bus clumping, and expanding service hours. Based on service frequency and demand, some routes are candidates for on-street improvements to improve bus traffic flow.

Existing and recommended conditions for each NJ TRANSIT bus route serving the West Hudson study area are summarized below, with maps of each subsequently included. Only those routes currently or planned to stop in the West Hudson study area have been reviewed. Additional bus routes travel through the study area with express service to New York but were not examined as part of this study.

Table 3 shows the frequency and timespan for each route serving the West Hudson study area between existing and recommended conditions. NJ TRANSIT is currently considering these recommendations.

The implementation of these routes should be considered in developing recommendations for the West Hudson study area as they will improve circulation and may necessitate additional transportation infrastructure, such as bus shelters, in select locations.

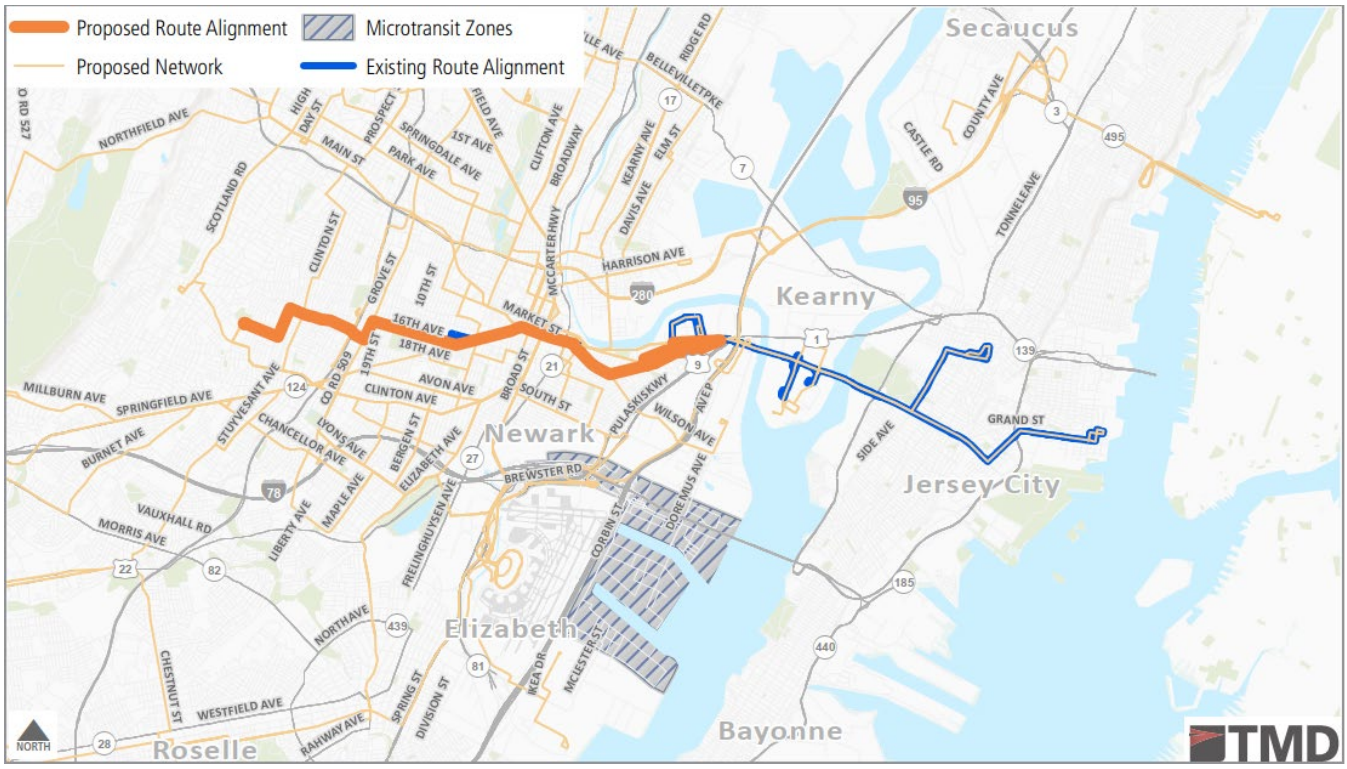

Figure 1 - NJ TRANSIT Route 1 Existing and Proposed Routing. Source: NewBus Newark Draft Route Recommendations

Route 1

- Existing: The highest ridership route in the Newark area, the route takes several patterns. In Kearny, the route travels along US Route 1& 9 Truck.
- Recommended: Route 1 will be split into Routes 1, 3, and 4. Routes 3 and 4 will operate from Newark Penn Station through Kearny to Jersey City. Route 1 will no longer serve Kearny.

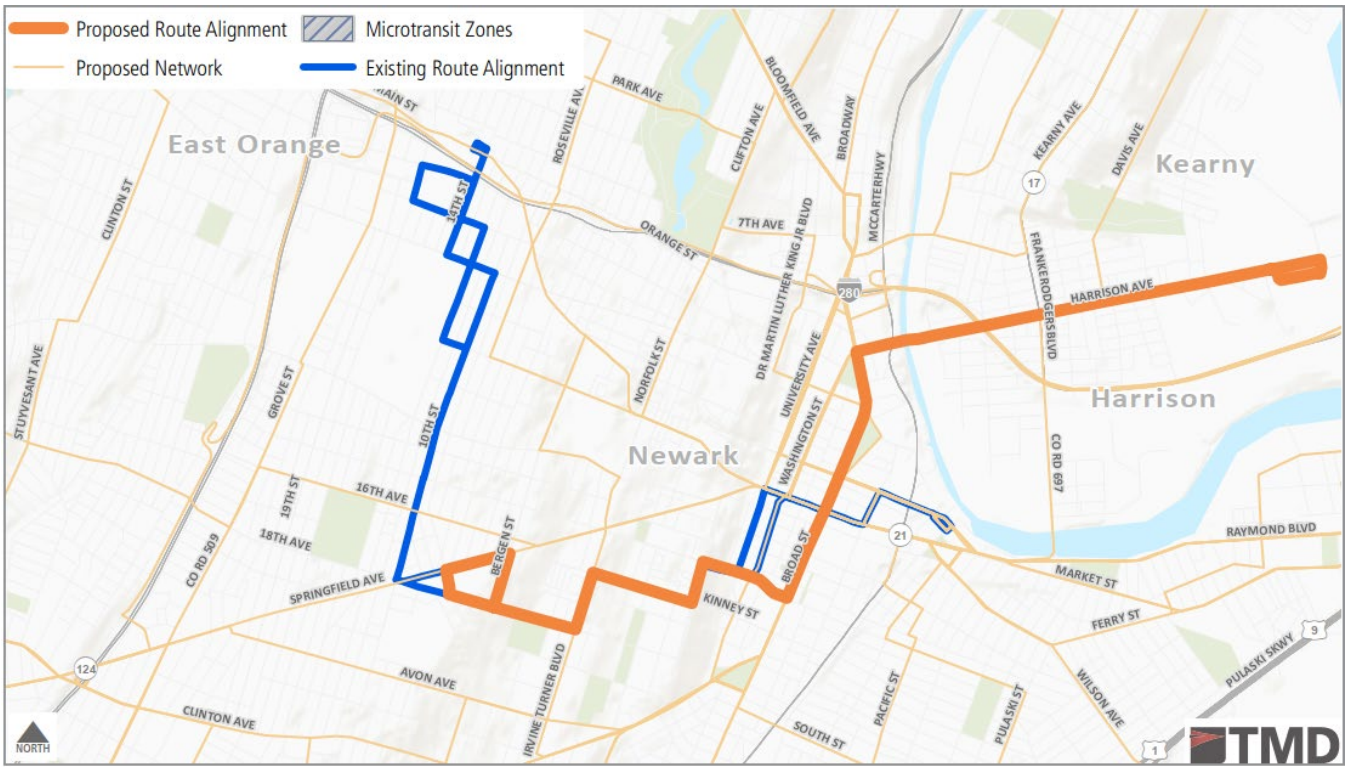

Figure 2 - NJ TRANSIT Route 5 Existing and Proposed Routing. Source: NewBus Newark Draft Route Recommendations

Route 5

- Existing: The Route currently operates only in Newark.
- Recommended: The Route will serve Harrison Avenue in Harrison and Kearny, including the Kearny Walmart, the most requested destination for new transit service according to the NewBus Newark Route Recommendations.

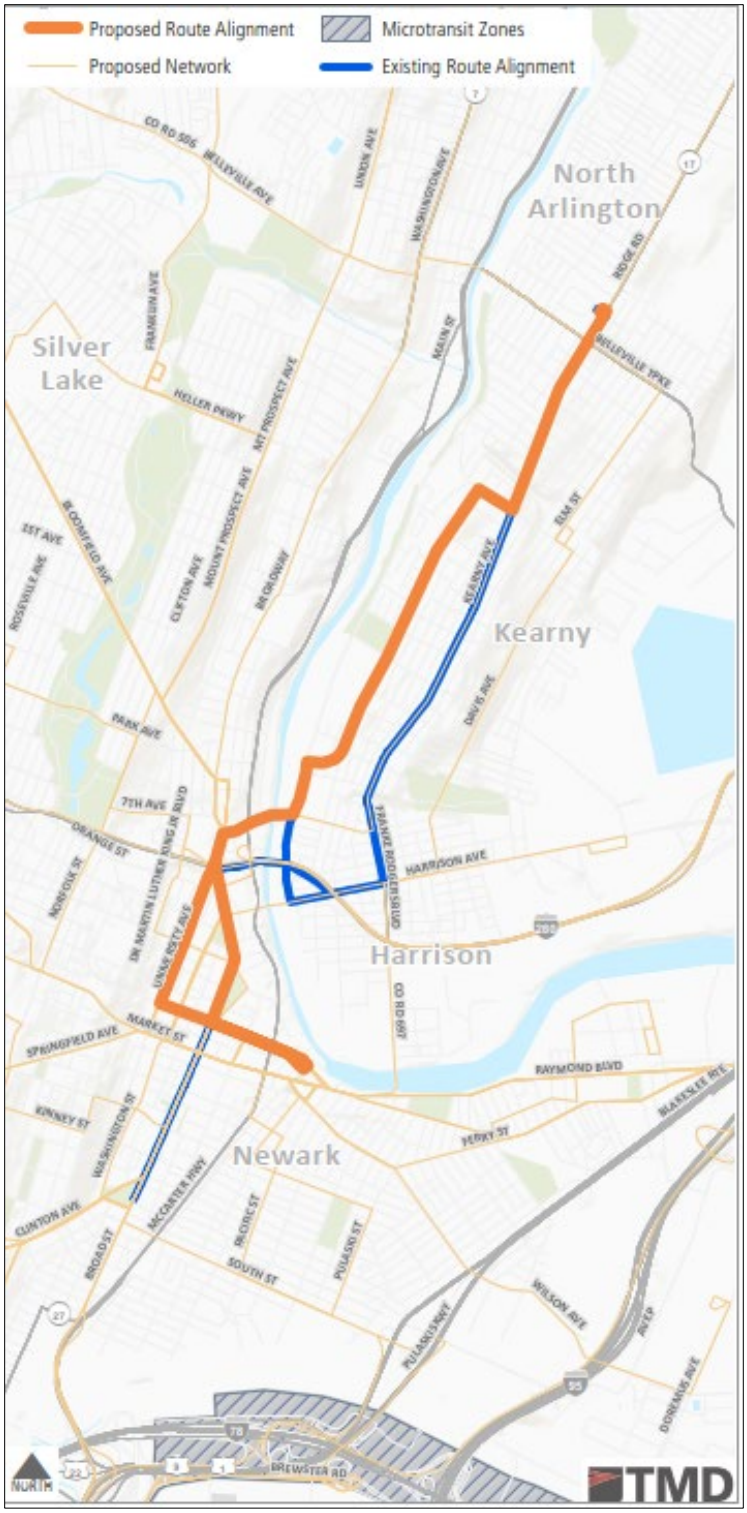

Figure 3 - NJ TRANSIT Route 30 Existing and Proposed Routing. Source: NewBus Newark Draft Route Recommendations

Route 30

- Existing: The Route serves Kearny Avenue in Kearny and Harrison, continuing to Newark Penn Station.
- Recommended: The Route will travel along Belgrove Avenue in Kearny instead of Kearny Avenue. Kearny Avenue will continue to be served by Route 76.

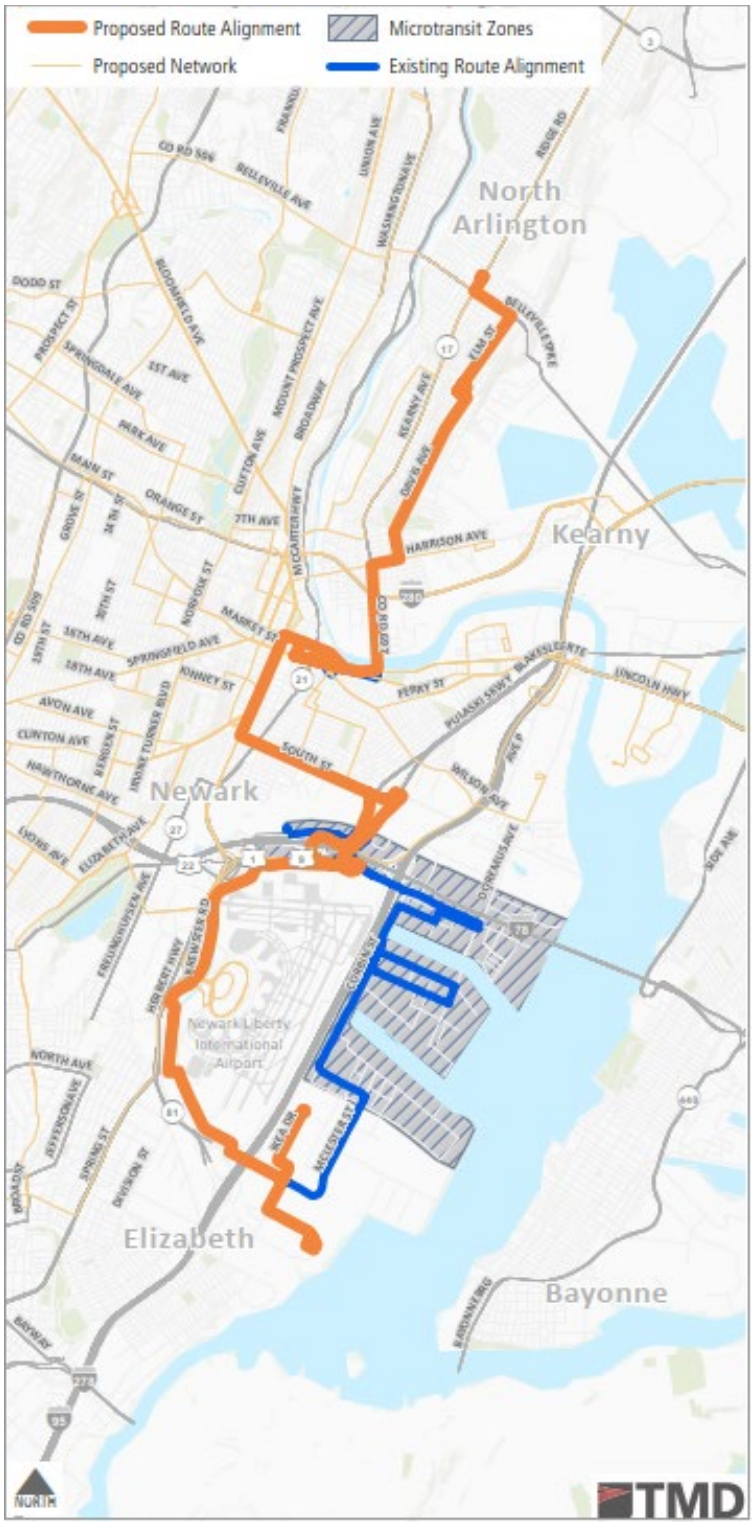

Figure 4 - NJ TRANSIT Route 40 Existing and Proposed Routing. Source: NewBus Newark Draft Route Recommendations

Route 40

- Existing: The Route enters Harrison on Frank E. Rodgers Boulevard and continues north into Kearny via Davis Avenue and Elm Street to North Arlington. The Route continues south into Newark, serving the Port area.
- Recommended: The route in Harrison and Kearny will not change. However, in Newark, the route will no longer serve the Port. It will bypass the airport terminals on the west side via Brewster Road and still terminate at Ikea and The Mills at Jersey Gardens.

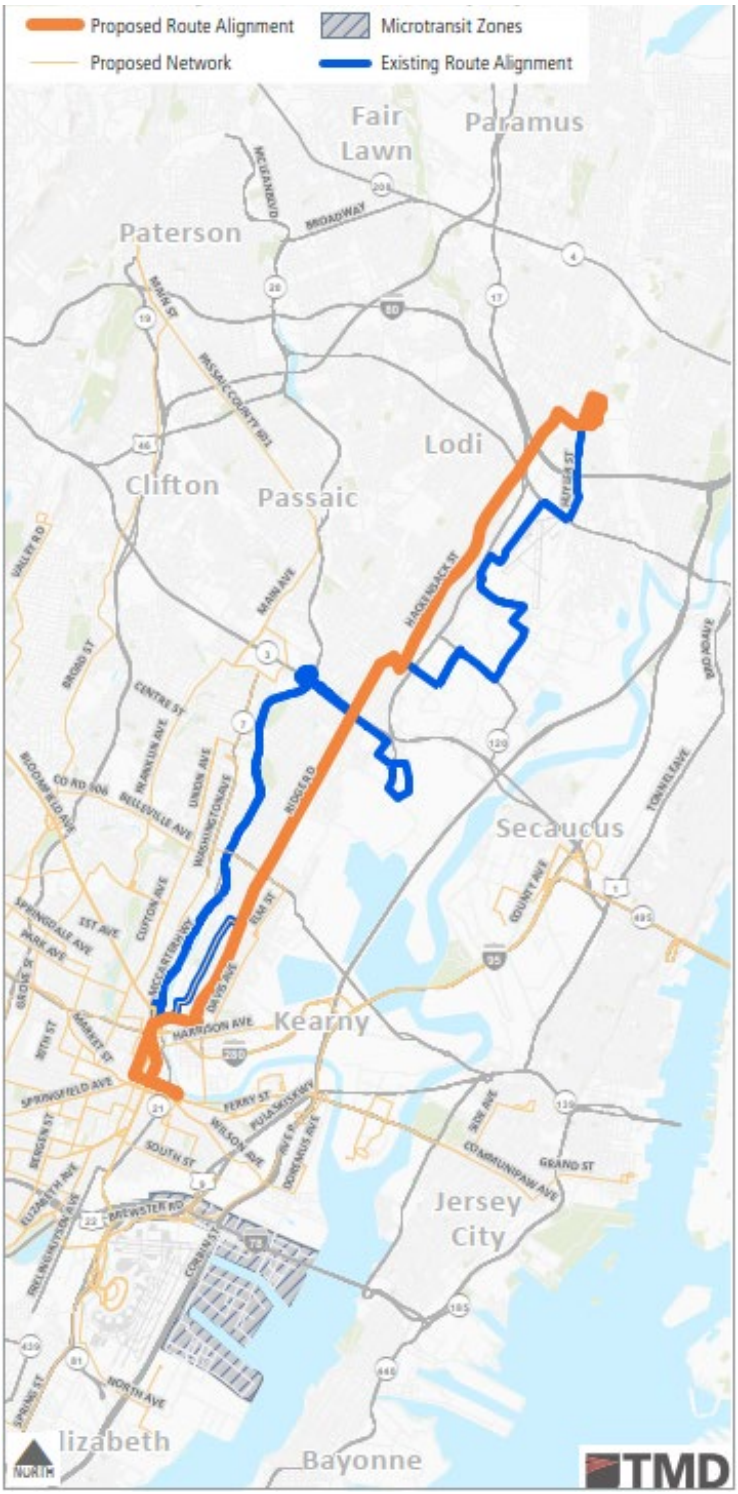

Figure 5 - NJ TRANSIT Route 76 Existing and Proposed Routing. Source: NewBus Newark Draft Route Recommendations

Route 76

- Existing: The Route serves Kearny and East Newark along Kearny Avenue, Belgrove Drive, and Passaic Avenue, continuing south into Newark and north into Bergen County.
- Recommended: Route 76 will operate on Kearny Avenue, using the same alignment as the existing Route 30, while Route 76's existing alignment along Kearny Avenue will be served by Route 30. Service north of Kearny will be streamlined to improve travel times to Hackensack Terminal.

Table 3 - Existing and Recommended Bus Service

Route	Service Element	Existing		Proposed	
		Frequency (Min)	Span	Frequency (Min)	Span
1	Weekday	5-10	5:00 AM-3:00 AM	5	24 hours
	Saturday	12	5:00 AM-3:00 AM	10	24 hours
	Sunday	25	6:00 AM-3:00 AM	10	24 hours
3	Weekday	30-50	5:00 AM-1:00 AM	30	5:00 AM-2:00 AM
	Saturday	45	5:00 AM-2:00 AM	60	5:00 AM-2:00 AM
	Sunday	120	5:00 AM-3:00 AM	60	5:00 AM-2:00 AM
4	Weekday	30-50	5:00 AM-1:00 AM	30	5:00 AM-2:00 AM
	Saturday	90	5:00 AM-2:00 AM	60	5:00 AM-2:00 AM
	Sunday	120	5:00 AM-3:00 AM	60	5:00 AM-2:00 AM
5	Weekday	25-45	6:00 AM-11:00 PM	30	5:00 AM-11:00 PM
	Saturday	45	6:00 AM-11:00 PM	60	5:00 AM-11:00 PM
	Sunday	60	7:00 AM-7:00 PM	60	5:00 AM-11:00 PM
30	Weekday	20-30	5:00 AM-12:00 AM	30	5:00 AM-1:00 AM
	Saturday	45	5:00 AM-1:00 AM	30	5:00 AM-10:00 PM
	Sunday	45	5:00 AM-1:00 AM	30	5:00 AM-10:00 PM
40	Weekday	30-50	6:00 AM-11:00 PM	30	4:00 AM-12:00 AM
	Saturday	60	6:00 AM-11:00 PM	60	5:00 AM-12:00 AM
	Sunday	60	8:00 AM-7:00 PM	60	7:00 AM-9:00 PM
76	Weekday	12-24	5:00 AM-12:00 AM	30	4:00 AM-12:00 AM
	Saturday	30	5:00 AM-10:00 PM	30	5:00 AM-10:00 PM
	Sunday	60	6:00 AM-10:00 PM	30	5:00 AM-10:00 PM

2.1.6 North Jersey Regional Active Transportation Plan

The North Jersey Regional Active Transportation Plan was published in June 2023 by the NJTPA. The Plan envisions an active transportation network across North Jersey, creating safe, functional, and connected opportunities for walking and biking. The Plan recognizes that providing active transportation infrastructure benefits health, the environment, safety, and the economy. The Plan includes a strategy guide with a tailored set of recommendations, two corridor case studies, and an analysis of network overlaps with highway interchanges. Goals and principles of the Plan include reducing risks and barriers to walking and biking, creating opportunities to walk and bike as part of daily life, and aiming for adaptability to serve the changing needs of communities and the environment. A barrier analysis identified street segments that are high-stress for bicyclists and detrimental to active transportation network connectivity. The Plan includes several recommended strategies for local entities, focused on building capacity, inter-jurisdictional and multidisciplinary collaboration, equity and environmental justice, data collection, communication, and public outreach, and funding for implementation.

Hudson County was identified as an area with a higher potential for walking and biking trips, although this is also correlated with a higher likelihood of crashes.

The overlap between the Regional Network and NJ TRANSIT commuter and light rail lines provides a strong opportunity to improve first- and last-mile active transportation connections between transit stations and population centers within Hudson County.

2.1.7 NewBus Hudson

NJ TRANSIT is currently undertaking the NewBus Hudson initiative, which will provide a comprehensive plan to reimagine the local bus network serving Hudson County. The overall goal is to improve the network to efficiently and effectively serve transit customers throughout Hudson County. Over 24 months, NewBus Hudson will review travel patterns and engage the public to incorporate good route planning principles to make a recommendation for a revised bus network. The Project is currently underway with draft network options expected in Spring 2025, and network recommendations in Fall 2025.

Similar to NewBus Newark, the implementation of NewBus Hudson recommendations should be considered in developing future recommendations for the West Hudson study area as the changes should improve circulation and may necessitate additional transportation infrastructure, such as bus shelters, in select locations.

2.2 County Plans

2.2.1 Hudson County Complete Streets Policy

Hudson County's Complete Streets Policy was adopted by the Hudson County Board of Chosen Freeholders in 2012 and directs Complete Streets practices to be integrated into the planning, design, construction, maintenance, and operation of County roads, bridges, parks, and building projects funded by the County Improvement Plan, to the extent practicable.

This Complete Streets Policy should be considered in developing active transportation recommendations for the West Hudson study area, assuring proper access and efficient circulation.

2.2.2 Hudson County Master Plan Re-Examination Report

The Hudson County Master Plan Re-examination Report was published in August 2016 by Hudson County. This Report aims to help the County and its municipalities incorporate smart growth and sustainable community approaches into their development plans, regulations, and hazard mitigation goals. Resiliency is a key principle underlying the Report. This issue is particularly important for the West Hudson study area, as much of eastern Kearny was submerged during Superstorm Sandy.

The County expects significant population growth in the West Hudson study area from 2010 to 2040: 87 percent in East Newark, 135 percent in Harrison, and six percent in Kearny.

The Report examines circulation goals and objectives established in the 2002 Master Plan and 2008 Re-Examination and how the issues have been addressed or changed. The Report also establishes a new set of goals and objectives based on current patterns and potential future trends, including introducing a system

of street typologies to replace functional classification. The goals, objectives, and issues identified in 2002 and 2008 are largely reaffirmed in this Report. Traffic congestion remains an issue, and the County has made physical and policy improvements to encourage greater use of bicycles.

Several projects identified in the 2002 and 2008 documents have been completed or are ongoing, including the 4th Street to Newark-Jersey City Turnpike resurfacing in Harrison, traffic signal upgrades on Schuyler Avenue in Kearny, and widening Passaic Avenue in Kearny.

New issues identified and expanded upon in the Report include damage from storm events, transit service reliability, connectivity between destinations, and aging infrastructure. In addition to countywide recommendations, such as continuing to maintain the County's roads and bridges, recommendations with particular relevance to the West Hudson study area include considering an east-west transit service feasibility study.

Many of the trends and issues identified in the Report remain true to the West Hudson study area, including the need for reliable transit service and aging infrastructure.

2.2.3 Hudson County Comprehensive Economic Development Strategy 2020-2024

The Hudson County Regional Comprehensive Economic Development Strategy (CEDS) 2020-2024 was published by Hudson County in 2020 and offers a strategic blueprint to plan for regional economic development and build regional resiliency in the County. The CEDS must be updated once every five years to qualify for United States Economic Development Administration assistance under the Public Works and Economic Adjustment Assistance programs. The CEDS consists of two parts: the first provides background information and an analysis of the most recently available data, and the second provides goals, strategic actions, and policy recommendations.

The CEDS recognizes the population growth experienced in the County (90,000 additional residents in 2020 from 2010) and identifies business districts on Kearny Avenue in Kearny and Harrison Avenue in Harrison. Profiles of each municipality in the County identify trends and notable projects, including the following:

- East Newark: eight percent population growth and 16 percent growth in the number of housing units from 2010-2020. Notable projects include the Clay Street Bridge Local Concept Development study.
- Harrison: 43 percent population growth and 64 percent growth in the number of housing units from 2010-2020. Notable projects include the PATH Harrison Station Replacement and Upgrade and the Bridge Street Bridge.
- Kearny: three percent population growth and nine percent growth in the number of housing units from 2010-2020. Notable projects include the Route 7 Wittpenn Bridge project.

Part 2 of the CEDS included a SWOT analysis that highlighted expanding bike infrastructure as a strength and some portions of the County lacking public transit as a weakness. Proposed transportation strategies include supporting walking, biking, and other mobility solutions for first- and last-mile connections,

ensuring transit service to major employment centers that build upon existing transportation systems and leverage employers to contribute to transit costs, and supporting regional and local transportation projects. Performance measures to be included in annual CEDS performance reports include the percentage increase in public transit ridership and the amount spent on transportation projects.

Similar to other County studies, the CEDS acknowledges the need for improved transit service and bicycle infrastructure. These issues also have been communicated through recent outreach with public officials and local stakeholders from the West Hudson study area.

2.2.4 Hudson County Truck Routes Assessment

The Hudson County Truck Routes Assessment was published in 2023 by Hudson County and the NJTPA. This Plan investigates truck movement so the County can effectively seek additional funding opportunities and direct investments in infrastructure to increase the efficiency of trucks, improve safety, maintain roadways, bridges, and other transportation infrastructure in a state of good repair, and create policy changes to reduce negative impacts on communities.

The Plan recognizes the County's proximity to ports, highways, bridges, tunnels, and railroad lines. Ninety-two percent of freight tonnage, to, from, or within Hudson County is transported by truck. Seventy-five percent of heavy truck trips in the County do not have an origin or destination in the County but begin and end in the NJTPA region. Ninety percent of medium truck trips have an origin or destination in the County.

Goals of the Plan included developing a comprehensive understanding of freight trucking in the County, assessing the effects of trucking on the community, identifying best practices for roadway design, and determining and prioritizing roadways needs on County freight roads. Data collected for the Plan include truck routes, truck volumes, origins & destinations, delivery locations, commodity flows, roadway geometry, roadway network capacity, demographics, safety, intermodal and truck parking facilities, bridges, weight limits, and pavement conditions.

Specific to the West Hudson study area, eastern Kearny (including South Kearny) was identified as one of the County's prominent origins and destinations for trucks.

A review of crash data revealed that Harrison Avenue has the third most truck crashes of all County routes, with a crash rate that is three times the statewide average for roadways with similar cross-sections. Two high-crash locations include the intersection of Harrison Avenue with Bergen Avenue and the eastbound weaving section between the I-280 on and off-ramps.

The roadway network capacity analysis included an analysis of ten congested roadway segments, including Harrison Avenue/Newark-Jersey City Turnpike in Harrison and Kearny.

A review of equity data revealed higher equity scores (more underserved communities) in East Newark and southeast Harrison.

A review of bridges revealed the Clay Street Bridge and Bridge Street Bridge as being deficient. Both bridges are in the Local Preliminary Engineering (PE) design phase funded through the Transportation Improvement Program (TIP).

Three of the nine focus areas identified for recommendations are in the West Hudson study area. Recommendations include designating the Central Avenue/Pennsylvania Avenue/Fish House Road corridor in Kearny as part of the New Jersey Access Network, implementing flexible shared spaces (designated to serve loading/unloading activity during peak commercial hours and general parking otherwise) on Harrison Avenue and Frank E. Rodgers Boulevard, and implementing a road diet and lane balancing (providing an additional through lane) on parts of Harrison Avenue and the Newark-Jersey City Turnpike.

The Hudson County Truck Routes Assessment offers recommendations that should be further considered as part of the West Hudson Circulation and Connectivity Study and recognizes the importance, and potentially detrimental impacts, of freight traffic.

2.2.5 Essex County Transportation Plan

The Essex County Transportation Plan was published in 2023 by Essex County and the NJTPA. This document was reviewed because Essex County is adjacent to the West Hudson study area, and its circulation network impacts the West Hudson study area's circulation network. Both the Clay Street and Bridge Street bridges over the Passaic River were identified as being structurally deficient, requiring emergency and priority repairs, with federal funding committed to replacement. The Clay Street Bridge is rated as being in serious condition due to a serious superstructure rating and is fracture-critical and scour-critical. The Bridge Street Bridge is in poor condition due to the poor superstructure and is identified as fracture-critical.

2.2.6 Passaic River Greenway Plan

Hudson County completed the Passaic River Greenway Plan in April 2023. The Plan describes and identifies existing conditions, connections to nearby destinations, short and long-term opportunities, and gaps and challenges to implementation. Implementation of the Greenway is intended to improve connections between East Newark, Harrison, and Kearny and the Passaic River waterfront. The study area for the Plan includes all three municipalities in the West Hudson study area. The Passaic River was historically a home for industrial uses, but changes in economic conditions and the upcoming cleanup of the River will soon create new opportunities for economic and social growth.

Existing and planned conditions within the three municipalities vary. Several redevelopment plans portray visions for each of the areas. Kearny features suburban communities, parks and recreation, commercial centers, and boat launches. East Newark and Harrison plan to redevelop industrial areas into mixed-use communities featuring recreation. The potential alignment of the Greenway is split into eight sections, each with its own opportunities and challenges. Opportunities include proximity to the Harrison PATH station, an overabundance of surface parking, and large parcels for redevelopment. Challenges include redevelopment plans that require long-term implementation, the presence of underground utilities, and

proximity to bridges and/or rights-of-way under County, State, Amtrak, or NJ TRANSIT jurisdiction. The Plan includes design standards for on- and off-road paths, vegetation, amenities, and signage, and recommends forming a Passaic River Greenway Working Group.

The design standards developed in the Passaic River Greenway Plan are valuable for further developing and expanding local and regional trail opportunities in the West Hudson study area.

2.2.7 Hudson County's Electric Vehicle Infrastructure Plan – Draft

A draft of Hudson County's Electric Vehicle Infrastructure Plan was released in September 2023. As of this report, the plan is still in draft form. The Plan prioritizes areas for the installation of electric vehicle charging stations and details early planning for the mass adoption of electric vehicles. The plan supports various state initiatives and targets aimed at reducing greenhouse gas emissions in the transportation sector.

Existing initiatives supporting electric vehicle charging in the County were inventoried. The Town of Harrison has included language in its Waterfront Redevelopment Plan to include electric charging stations that connect with an essential public electric charging network. Additionally, Kearny is home to the largest electric vehicle charging hub in the County, the Kearny Point Fleet Charging Hub in South Kearny, which offers flexible daytime and overnight rapid charging for Class 4-8 trucks. Harrison is home to 12 Level 2 charging stations and Kearny has seven Level 2 and 11 DC Fast charging stations. East Newark has no publicly-accessible charging stations.

A heatmap analysis of roadways was conducted to assess the suitability of charging stations (see Figure 6). Variables included population density and distance to existing charging stations. The West Hudson study area generally scored less suitable than the more densely populated parts of eastern Hudson County, although West Hudson's commercial areas around Harrison Avenue and Kearny Avenue scored higher than other parts of the West Hudson study area.

Demand for electric vehicle charging infrastructure has skyrocketed in recent decades and has been increasingly recognized by governments and the public as an essential means of reducing greenhouse gas emissions. Increased adoption of electric vehicles would be enhanced by the installation of more electric vehicle charging stations. The placement of these locations will impact traffic patterns and should be planned.

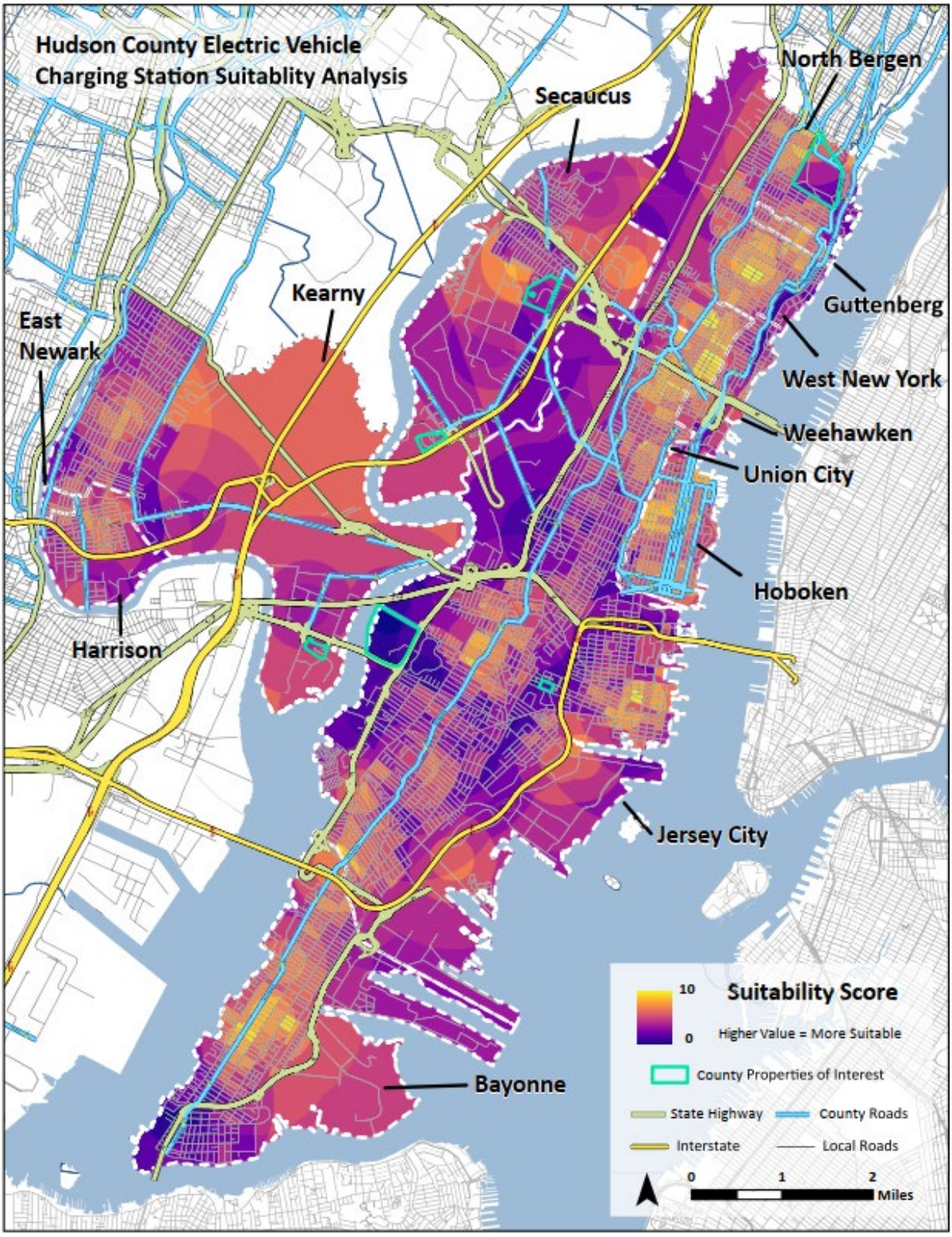

Figure 6 - Hudson County Electric Vehicle Charging Station Suitability Analysis

2.2.8 Hudson County Vision Zero Action Plan

Hudson County is currently developing a Vision Zero Action Plan intended to eliminate traffic fatalities and severe injuries on all county roads and local and state roads except those in Jersey City, Hoboken, and the Meadowlands District, which either have or are working towards their own Vision Zero plans. Like many safety action plans, Hudson County is leveraging the FHWA's Safe System Approach which is meant to provide a holistic, cross-cutting, and redundant series of strategies to reduce serious crashes.

Portions of the following West Hudson roadways were identified in the plan's High-Injury Network (HIN):

- Belleville Turnpike (NJ 7) – Kearny
- Bergen Avenue – Kearny
- Frank E. Rodgers Boulevard (CR 697) – Harrison
- Harrison Avenue (CR 508) – Kearny
- Passaic Avenue (CR 699) – East Newark, Kearny
- Schuyler Avenue (CR 507) – Kearny

Accordingly, the plan that includes these roadways will focus on the application of safety countermeasures, addressing transportation network gaps, policy changes, Safe Routes to Schools, and roadway safety in underserved communities, among other areas. The study has included establishing a Vision Zero Task Force, developing a goal timeline for eliminating traffic fatalities, and analysis of existing conditions and crash data. The Plan is expected to be completed in 2024.

Safety is an essential component of the West Hudson Circulation and Connectivity Study. Future technical memorandums will discuss roadway safety in more detail although the identification of several County routes as high-crash corridors offers an opportunity for Hudson County and its municipalities to take action in pursuing Vision Zero.

2.3 Municipal & Local Plans

2.3.1 Newark Downtown Circulation Improvement Study

The City of Newark completed the Newark Downtown Circulation Improvement Study in June 2019. It evaluated the current and future Downtown Newark street network and identified locations and strategies for improvement. The study area was bounded by I-280 to the north, Bergen Street to the west, I-78 to the south, and U.S. 1/9 to the east. Newark was identified by the Federal Highway Administration as a Pedestrian Focus City due to the high number of motor vehicle crashes involving a pedestrian. The study included recommendations for five focus areas.

This document was reviewed because Downtown Newark is adjacent to the West Hudson study area, and its circulation network impacts the West Hudson study area's circulation network. Recommendations relevant to the West Hudson study area include installing a bicycle lane along Raymond Boulevard (intersecting the Jackson Street Bridge, which connects to Harrison). The ongoing Newark Riverfront Pedestrian and Bicycle Access Project is also discussed. This project is evaluating pedestrian and bicycle

access and facilities along Center Street, Park Place, and Broad Street in Newark. That project, in the Concept Development (CD) phase, will be completed in 2025.

Recommendations for bicycle improvements in the Newark Downtown Circulation Improvement Study would be supported by similar infrastructure improvements in Harrison and East Newark that facilitate safe and comfortable cycling between the two municipalities, counties, and wider region.

2.3.2 Town of Harrison's 2020 Master Plan Reexamination Report

The Town of Harrison adopted its most recent Master Plan Reexamination Report in November 2020. The Town's Master Plan was adopted in 2007, with a subsequent Reexamination in 2017. The purpose of the Report is to review and evaluate the Master Plan and Development Regulations to determine the need for updates and revisions.

The 2007 Master Plan set goals and objectives that included policy-based targets focused on expanding the Town's economic base and providing facilities and services for residents. Circulation and parking objectives that directly align with the West Hudson Study included providing a safe and adequate road system capable of handling future growth, supplying convenient parking that meets the needs of commercial and residential areas, increasing public transportation use, and increasing bicycle and pedestrian safety by improving traffic signals at key intersections. Since the 2007 Master Plan, the Town has experienced significant redevelopment efforts concentrated in the Waterfront Redevelopment Area.

The Town has experienced significant development since the 2017 Reexamination, with more than 10,000 residential units, 2.2 million square feet of retail/commercial, 650 hotel rooms, and 1.9 million square feet of office space projected. This Report recommends that the Town encourage the installation of public electric vehicle charging infrastructure on non-residential properties, including the provision for electric vehicle charging stations as a permitted accessory use in several zones.

The recent development discussed in the report supports a need for further transportation infrastructure improvements in Harrison, including electric vehicle charging infrastructure, as also discussed in the Hudson County Electric Vehicle Infrastructure Plan.

2.3.3 Borough of East Newark Master Plan Reexamination Report

The Borough of East Newark Master Plan Reexamination Report was adopted in May 2021, subsequent to a 1984 Master Plan, 1992 Amendment, and Reexaminations in 2006 and 2011.

One objective of the 1984 Master Plan that remains valid and applicable to the West Hudson Study is to "endorse the recommendations of previous studies to eliminate certain traffic and water pressure problems and provide new improvements." The 1984 Master Plan also made several recommendations for the intersection of Passaic Avenue and Central Avenue in East Newark. Some of these recommendations have been implemented, but others have not, including widening Passaic Avenue to four lanes. The 2011 Reexamination recommended considering implementing a car-sharing program to reduce parking demand. The 2021 Reexamination reaffirms the parking issue, stating that several ordinances designating parking for residents have been enacted and, if ridesharing becomes prevalent in East Newark, reduced

parking requirements can be considered. Additional recommendations that align with the West Hudson Study in the 2021 Reexamination include incorporating a waterfront walkway connecting Harrison and Kearny and installing electric vehicle charging infrastructure on commercial and municipal properties, and at new, larger multi-family residential and mixed-use developments.

The recommendations of the 2021 Reexamination to install electric vehicle charging infrastructure and bicycle infrastructure support other municipal and County plans. These improvements support the desire for multi-mobility facilities in the West Hudson Circulation and Connectivity Study.

2.3.4 Town of Kearny 2021-2030 Comprehensive Master Plan

The Town of Kearny 2021-2030 Comprehensive Master Plan was adopted by the Town of Kearny in January 2022. The Plan was developed in the context of the recent COVID-19 pandemic and worsening impacts of climate change and storms. The Plan's vision for 2030 that directly aligns with the West Hudson Study includes well-maintained roadways, a decline in traffic congestion and investments in public transit, improved municipal parking management policies and strategies, and promotion of walking and biking as a safe and fun activity.

A public survey was conducted as part of the plan development and received 845 responses. More than 75 percent of respondents answered in favor of expanding transit services (including constructing a new train station), prioritizing bicycle and pedestrian safety improvements, and pursuing a rail-to-trail or greenway along the Essex-Hudson Greenway.

The Plan reviews the transportation network in three distinct areas of the Town: Uplands Kearny, the Meadowlands District, and South Kearny.

- Uplands Kearny has a dense grid-based roadway network that allows for automobile access and foot traffic but lacks bike infrastructure. Three NJ TRANSIT bus routes serve the area.
- The Meadowlands District is heavily trafficked by motor vehicles but largely lacks pedestrian and biking infrastructure.
- South Kearny presents a similar transportation network as the Meadowlands District area, though it has multiple ongoing multimodal transportation projects. Complete Street measures are proposed for Hackensack Avenue, and Hudson County has received a subregional planning grant from the NJTPA to examine the feasibility of running additional ferry service, including a stop in South Kearny at Kearny Point.

The Plan provides several circulation goals and objectives, including addressing high-crash locations on municipal roadways, expanding bus service, requesting the County install sidewalks and other pedestrian amenities on Passaic Avenue, working to eliminate traffic bottlenecks, and planning and preparing for autonomous vehicles, electric vehicles, and micro-mobility.

The Plan's identification of three distinct areas of Kearny speaks to the varied circulation needs of each area and the desire for context-sensitive solutions. The additional circulation goals seeking to address

safety and congestion, and plan for autonomous vehicles, electric vehicles, and micro-mobility support the West Hudson Circulation and Connectivity Study aim for multi-mobility.

2.3.5 Newark360

Newark360, Newark's Citywide Master Plan was published in September 2022 by the City of Newark. The Plan provides a comprehensive review of existing conditions and goals for the City over the next ten to 15 years. The Plan largely focuses on transportation considerations of public transit and access to public transit, including implementing Complete Streets.

Relevant to the West Hudson study area, McCarter Highway was identified as a barrier, isolating Newark from the Passaic River. The Plan recommends converting the corridor to a boulevard, improving east-west connectivity, and improving riverfront access. Additionally, the Plan includes a goal to expand and leverage access to and across the Passaic River by creating a continuous public riverfront walking and biking trail, with opportunities for public access to and along the water from streets and easements across private property.

The Plan's identification of the Passaic River as a barrier to circulation supports comments received as part of the West Hudson Circulation and Connectivity Study and would be partially addressed by the various multimodal local, county, and state projects underway or being planned, including any recommendations that result from this study.

2.3.6 Town of Harrison Complete Streets Policy and Implementation Plan ("Harrison Streets For All")

This effort was focused on making streets within the Town of Harrison safer and more accessible for pedestrians, bicyclists, public transportation users, children, older individuals, individuals with disabilities, motorists, and freight vehicles. To advance this goal, a municipal Complete Streets policy was produced to set goals and expectations for the planning, design, and implementation of future street projects and establish oversight procedures. A graphical street Design Guide was also produced to provide contextual design direction for municipal street projects by suggesting specific design, safety, and/or operational treatments as well as associated design guidance from established sources such as AASHTO or NACTO. The Design Guide is meant to set expectations on safe and multimodal street design for planners, engineers, contractors, or developers working on street projects in Harrison.

The work was informed by extensive outreach and interactive activities including "pop-up" public engagement events, two demonstration projects, and a Walkability Workshop, at which the project team and stakeholders walked a defined route in Harrison to observe and note issues and opportunities related to street safety, design, and operations.

2.3.7 Bridge Street Bridge – Local Preliminary Engineering (PE) Phase

Hudson County and Essex County are studying the Bridge Street Bridge over the Passaic River to address structural deficiencies. The bridge has been temporarily closed in recent years for structural and mechanical repairs and connects the study area (Hudson County) with the City of Newark (Essex County).

Existing issues include localized advanced section losses, mechanical machinery and an electrical system in poor condition, and substandard design of bridge railings.

The project's Local Concept Development (LCD) study was completed in 2020, and the Local Preliminary Engineering (PE) phase was completed in 2024. A Community Stakeholders Meeting was held in Harrison in Fall 2023, and a Public Information Center was held in Harrison in Spring 2024.

Eight alternative concepts were developed for analysis. The Preliminary Preferred Alternative (PPA) includes widening and replacement of the bridge along the existing alignment with a movable bridge (see Figure 7) Under the PPA, the roadway would be widened from one 19'-6" travel lane in either direction to two 12' travel lanes in each direction. Additionally, 8' shoulders would accommodate cyclists. The sidewalk on either side would be narrowed from 8'-3" to 6'. The intersection would provide ADA-compatible curb ramps and detectable warning surfaces, pedestrian signal pushbuttons and countdown heads, and crosswalks.

Addressing structural deficiencies of the Bridge Street Bridge supports regional multi-mobility between the West Hudson study area and the City of Newark.

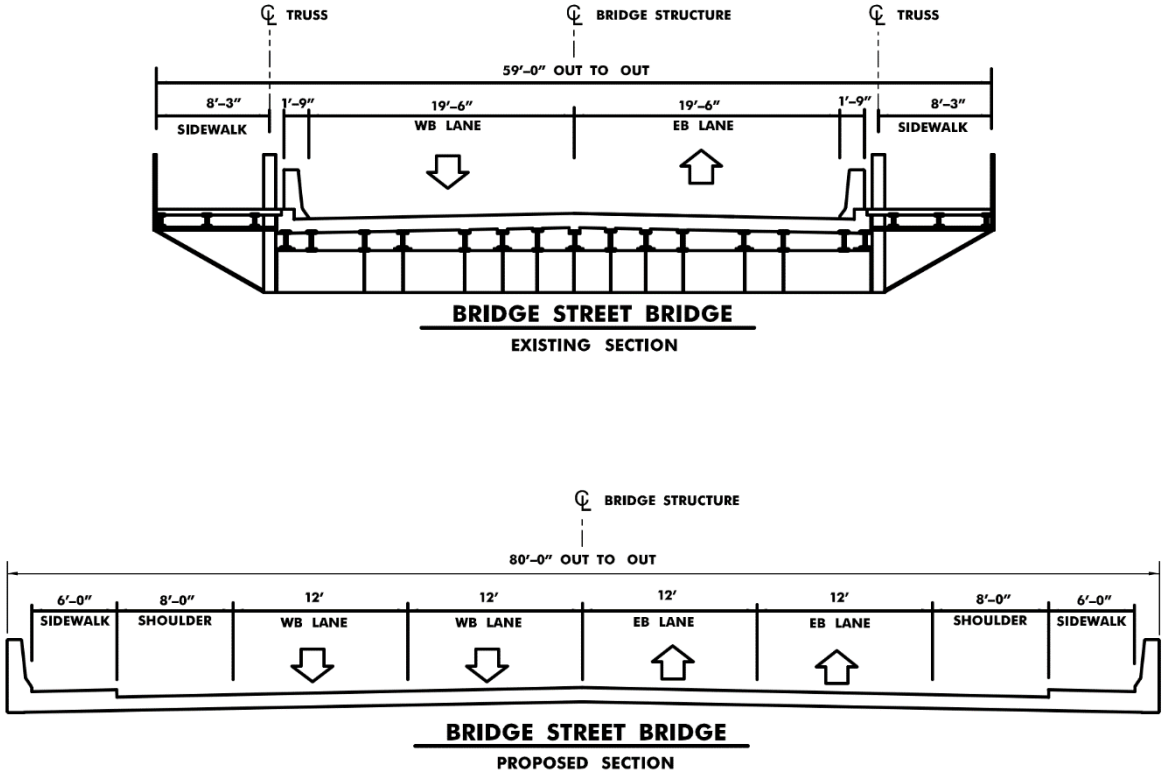

Figure 7 - Bridge Street Bridge Existing and Proposed Sections

2.3.8 Frank E. Rodgers Boulevard Safety Improvements

Hudson County has received federal Highway Safety Improvement Program (HSIP) funds for the design and construction of safety improvements along a 0.9-mile portion of Frank E. Rodgers Boulevard (County Route 697) in Harrison between Harrison Avenue and Cape May Street. The corridor includes nine signalized and six unsignalized intersections. Existing issues include poor lighting, long pedestrian crossings, outdated traffic signals, and flooding near the PATH station. Planning, evaluation, and design work commenced in September 2022. A public meeting was held in April 2024, and preliminary design was completed in Spring 2024. The corridor design will include curb extensions, high-visibility crosswalks, sidewalk and lighting improvements, new/upgraded traffic signals, drainage improvements, and roadway resurfacing. Final Design is anticipated to begin in 2025, with construction taking place in 2028/2029.

Addressing safety on Frank E. Rodgers Boulevard supports regional multi-mobility within the West Hudson study area.

2.3.9 Clay Street Bridge Replacement over the Passaic River – Local Preliminary Engineering (PE) Phase

Hudson County and Essex County are advancing the design for the replacement of the Clay Street Bridge over the Passaic River that connects the West Hudson Study Area (Hudson County) to the City of Newark (Essex County). Existing issues include structural deficiencies, deterioration, substandard curb height, substandard lane width, and substandard curb ramps. The project's Local Concept Development (LCD) study was completed in 2020 and is currently in the Local Preliminary Engineering (PE) phase, anticipated to be completed by Fall 2025.

Both the Borough of East Newark and City of Newark passed resolutions of support for the Preliminary Preferred Alternative (PPA) developed during the LCD phase. The PPA includes replacing the bridge with a new bridge to address the structural deficiencies. Improvements to the approach intersections on both sides of the bridge are also proposed to better accommodate vehicular flow and mobility for pedestrians and bicyclists. The bridge currently has one 20' travel lane in each direction. The PPA provides one 12' westbound travel lane and two 12' eastbound travel lanes. Eastbound traffic will begin with one travel lane before widening to two. The left lane will remain a left turn lane to northbound Passaic Avenue in Harrison. On the bridge, 8' shoulders will be provided in either direction to accommodate bicyclists.

Addressing structural deficiencies of the Clay Street Bridge and modifying the roadway section to include bikeable shoulders supports regional multi-mobility between the West Hudson study area and the City of Newark.

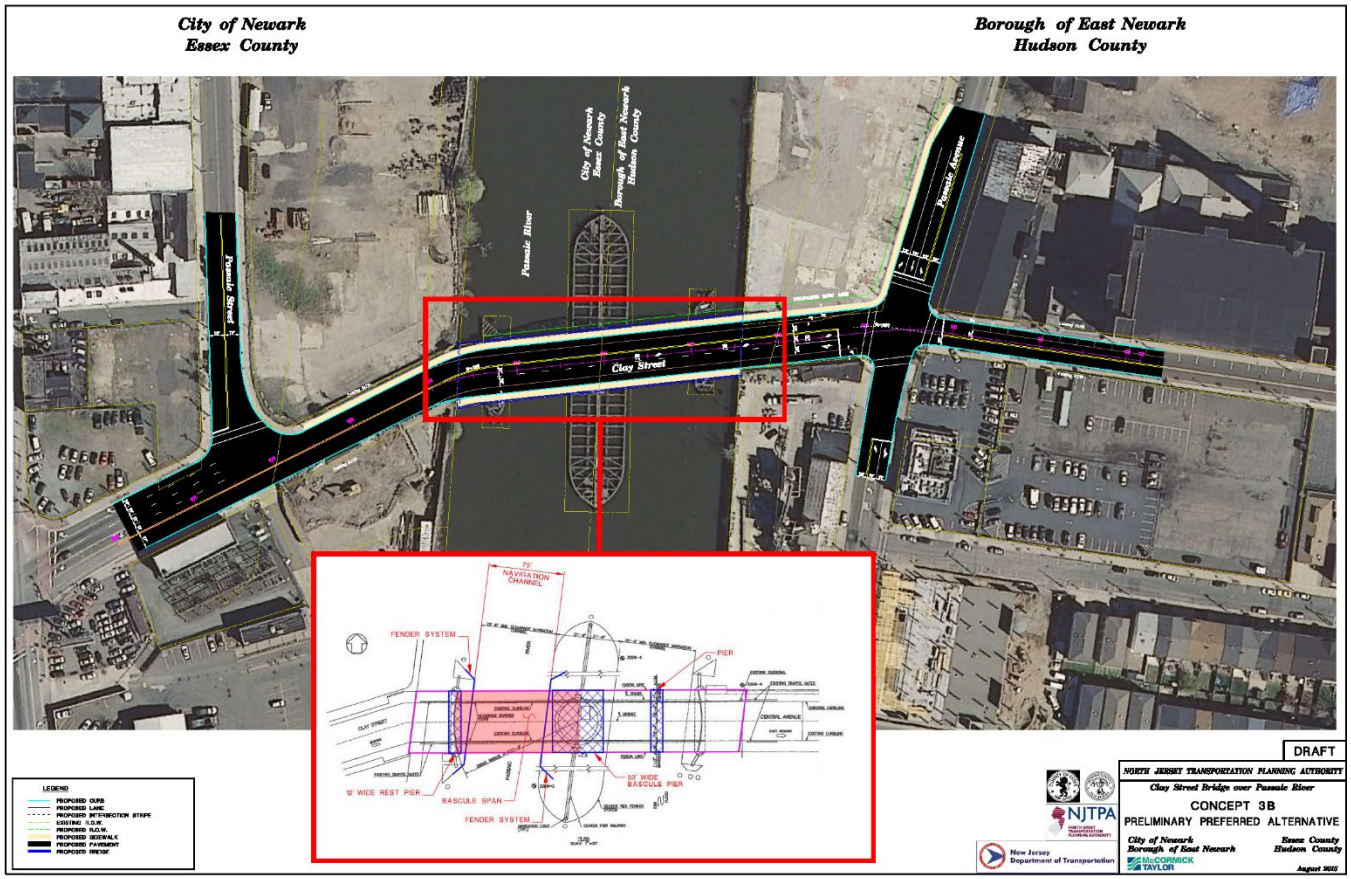

Figure 8 - Clay Street Bridge Preliminary Preferred Alternative (PPA)

2.4 Takeaways

A review of existing and ongoing plans and studies in the West Hudson study area reveals several projects, programs, and initiatives that should complement any recommendations made as part of this study. By considering, leveraging, and building upon the work and recommendations of previous efforts, circulation, connectivity, and mobility within the study area can be improved in a holistic manner.

Key takeaways from existing plans and studies relevant to this study include, but are not limited to:

- NJ TRANSIT's local bus service in the Newark area, including the West Hudson study area, has recently undergone a reassessment through the NewBus Newark study. The West Hudson Circulation and Connectivity Study can leverage and build upon that work by recommending ways to improve transit stop accessibility and fill service gaps through complementary County and/or TMA bus and shuttle systems.
- The NJTPA's Regional Active Transportation Plan recommended walking and biking connections within the West Hudson study area that can enhance mobility and fill gaps. Further connections to the ATP network may be considered as part of the West Hudson Circulation and Connectivity Study.

- The Harrison Complete Streets Policy and Implementation Plan evaluated street conditions within the Town of Harrison to develop a municipal Complete Streets Policy and produce a contextual Complete Streets Design Guide to facilitate future project design and delivery on Town streets in the future.
- The Passaic River Greenway Plan lays out a plan for a waterfront path that will provide a critical north-south active transportation link when fully built out.
- The Hudson County Electric Vehicle Charging Station Suitability Analysis can inform EV and parking recommendations when considering EV charging stations for personal vehicles and trucks.
- Several major infrastructure projects within the study area, including the Bridge Street Bridge, the Clay Street Bridge, and Frank E. Rodgers Boulevard, are in various stages of design. Recommendations made as part of this study will consider the future condition of these facilities.
- Hudson County's Vision Zero Plan identifies several roadway segments in the West Hudson study as part of the County's high-injury network. Recommendations to improve safety at/along these segments will inform the work of the West Hudson Circulation and Connectivity Study.

3. Case Studies

Case studies were selected and investigated to identify a mix of best practices related to first- and last-mile solutions, public realm enhancement techniques, and transportation investment. These best practices can be used as guides to inform the development of transportation and mobility strategies for the West Hudson study area. Case studies come from across the country and mainly include those in similar urban contexts to the West Hudson study area. These case studies intend to offer a diverse array of options for improving first- and last-mile connections and the public realm.

The following sections draw attention to several case studies related to two areas of particular relevance to the West Hudson study area. These themes have been noted by project stakeholders as issues that should be addressed through this study.

- First- and Last-Mile Connections – According to the NJTPA, first- and last-mile solutions are "transportation services and infrastructure that enhance connections to and from fixed-route transit: the 'first mile' from a trip origin to transit and/or the 'last mile' from transit to the trip destination. (First/Last Mile Solutions Implementation Brief, June 2021). First and last-mile connections include both fixed service and demand response services and can be free or require a fare.
- Public Realm Enhancements – This is a broad category related to filling active transportation gaps, improving spaces at/under elevated roadways like I-280 that pass through neighborhoods, and managing vehicular travel speeds.

While several local and national examples are included, most lessons are drawn from Los Angeles County, which features similar characteristics to the West Hudson study area. Los Angeles County contains a mix of urban and suburban communities spread across some relatively small municipalities (88 municipalities in Los Angeles County). The area has numerous intercity, commuter, rapid transit, and freight rail lines as well as a bus network. Freeways and major regional roadways also traverse Los Angeles County. Lastly, the area is home to a substantial freight-intensive industrial base that is located near residential communities.

3.1 First-/Last-Mile Connections

Numerous first- and last-mile (FLM) solutions have been identified in this list of case studies. Important information concerning the topic is included in NJTPA's *First/Last Mile Solutions Implementation Brief (2021)*. This document also mentions examples of FLM solutions conducted across the country, including a *First Last Mile Strategic Plan and Planning Guidelines* developed by the Los Angeles County Metropolitan Transportation Authority (Metro).

Metro has developed several FLM plans for new transit projects and existing stations. Metro places equity at the core of the FLM planning process, prioritizing the input of local communities and stakeholders to develop a set of community-supported improvements. The agency has also established the Metro Active Transport (MAT) and First-/Last-Mile Program aiming to encourage active transportation and enhance

safety. Metro's work offers a distinct perspective compared to other cases. Most other FLM solutions, including some discussed in this document, focus on shuttle and micromobility while Metro has focused on biking and walking for FLM connections.

Closer to the West Hudson study area, there are several FLM examples, including subsidization of ridesharing apps, as is done in Jersey City with Via. In addition, there are numerous other small and large cities across the country that have taken various approaches to coordinating and subsidizing ridesharing in their communities, including connecting to rail stations, to reduce parking demand. Nearby, Essex County and EZ Ride provide *Night Owl* service between 1:00 and 5:00 AM to fill a gap in public transit service. Service operates in multiple municipalities and provides connections to Newark Penn Station, where additional public transit connections are provided to Newark Liberty International Airport and New York City.

In Chester, PA, shuttle service is operated between Subaru Park, home to the Philadelphia Union of Major League Soccer (similar venue to Red Bull Arena in Harrison), and a nearby train station. Both this case study and the West Hudson study area host a Major League Soccer team in a largely industrial and developing area that is adjacent to residential uses. Both sites are also proximal to rivers with limited active transportation access.

Together, these case studies offer a mix of new and established First and Last Mile (FLM) solutions that have aimed to improve mobility and bridge gaps between transit and origins/destinations.

Microtransit

"Microtransit" is described by the American Public Transportation Association (APTA) as "small-scale, on-demand public transit services that can offer fixed routes and schedules, as well as flexible routes and on-demand scheduling." Microtransit can simultaneously offer a FLM solution as well as operating independently of other public transit. Several microtransit services offer insights for the West Hudson study area.

Metro offers the Metro Micro on-demand rideshare service. The service currently operates in eight distinct zones. Based on the needs of the communities served, Metro Micro operates different hours of the day. The base fare is $2.50 but is free for transfers to Metro bus and rail. Each of the zones serves Metro bus and rail lines where passengers can connect to service that continues throughout the Los Angeles region. A $1 fare is offered for seniors, people with disabilities, and students. Wait times for pickup are a maximum 15 minutes. Updates about pickup times are available via text and an app. Bookings can be made up to seven days in advance. As of June 2024, ridership for 2024 was 2,305 riders per weekday[1]. Similar to the West Hudson study area, the area served by Metro Micro is also served by a mix of rapid transit and bus providers.

Denver's[2] Regional Transportation District offers the MallRide service. The free shuttle operates approximately 1.2 miles between the Civic Center bus station and Union Station (see Figure 9). Union

[1] https://la.streetsblog.org/2024/06/18/latest-on-metro-micro-still-few-riders-high-costs
[2] Denver population: 716,000 (2023)

Station provides bus, light rail, and commuter rail service. MallRide operates seven days per week from approximately 5:30 AM to midnight. For most of the day, each stop is served approximately every five minutes. The shuttle stops at every intersection along the routes with a travel time of approximately 16 minutes. In 2017, the service began operating with zero-emission, electric battery-operated vehicles. Pre-pandemic annual ridership exceeded 10 million passengers (more than 25,000 per day). The "loop" service offered by MallRide can offer inspiration for a similar concept to connect the various destinations, transit connections, and trip generators in the West Hudson study area.

Figure 9 - MallRide Route

The City of Trenton recently initiated GoTrenton! service that provides low-cost electric vehicle on-demand ridesharing/shuttle service. The service was established to fill a gap in affordable and reliable transportation options in areas not serviced by traditional transit models. Currently, GoTrenton! serves most of the City of Trenton and a part of Hamilton Township. Most trips on GoTrenton! are free for riders. GoTrenton! plans on expanding with a workforce van program and public electric vehicle charging stations. In October 2024, the City of Trenton announced that a new Mercer County program is allowing GoTrenton! to expand to the entire City and link with more existing transit connections. This service offers relevant insights for the West Hudson study area as it improves transportation access to an underserved and urbanized area.

Lastly, within Hudson County, the City of Hoboken offers intracity shuttle service via The Hop. These shuttles will stop at any intersection along pre-determined routes (see Figure 10). No fare is required for passengers. The routes and service can be tracked via an app. Four routes operate each weekday; two from 8:00 AM to 8:00 PM and one from 10:00 AM to 6:00 PM. Additionally, a Senior Shuttle operates 8:00 AM to 4:00 PM. These services offer insights into the feasibility of operating multiple shuttle routes for various user groups.

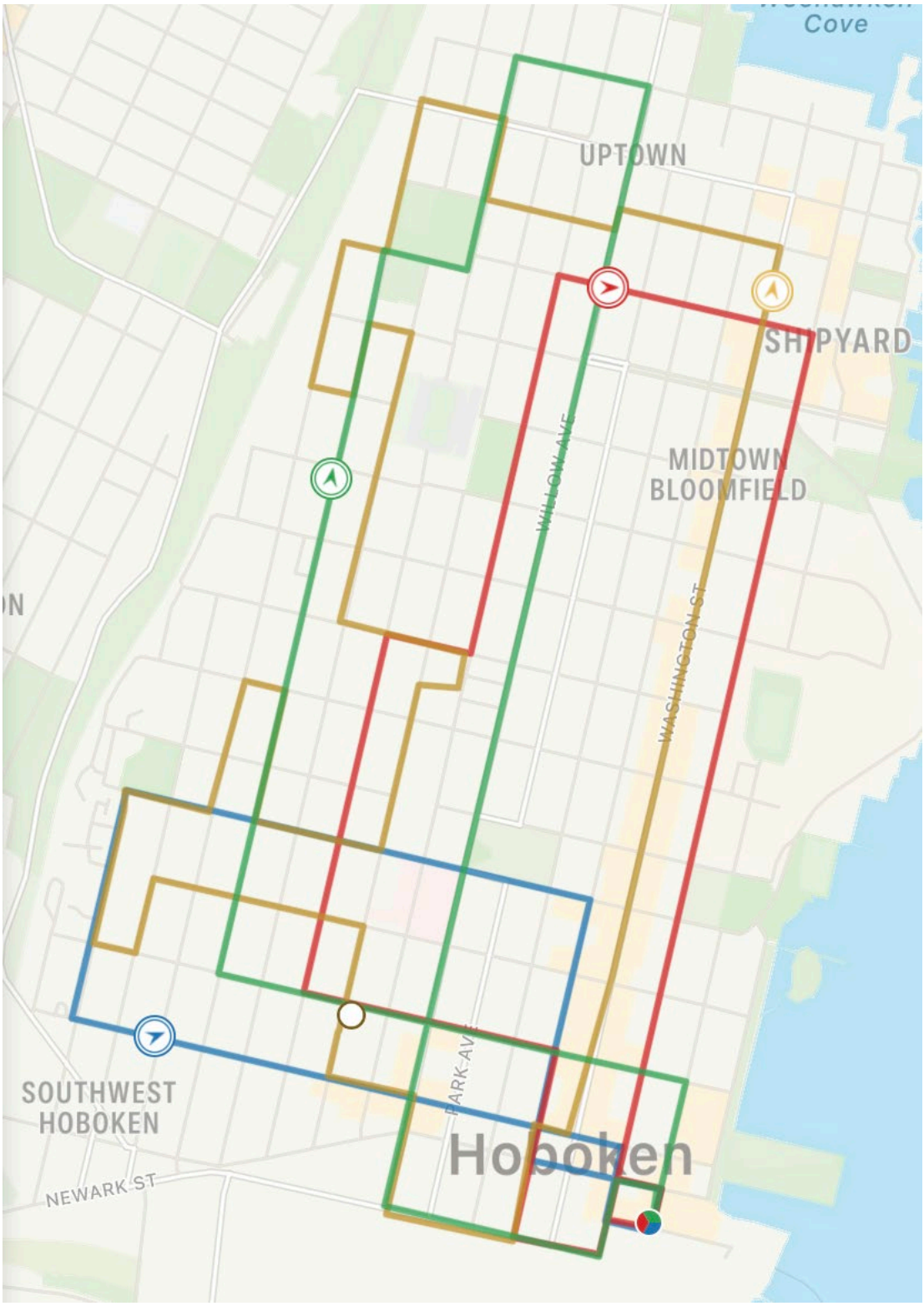

Figure 10 - The Hop Routes. Note: Each color represents a different route.

3.2 Public Realm Enhancements

Enhancements to the public realm will be important to West Hudson because the study area is crossed by several major pieces of infrastructure, including I-280, the Pulaski Skyway, NJ Turnpike, and the Northeast Corridor/PATH rail lines, among others, that impact neighborhood cohesiveness and quality of life. In addition, issues such as active transportation gaps (e.g., lack of sidewalks or on- or off-street cycling facilities), cut-through traffic, and high travel speeds have been raised by project stakeholders to date. The following case studies reveal examples of enhancing the public realm to address these issues specific to the West Hudson study area.

Elevated Transportation Structures

The New York City Department of Transportation's (NYC DOT's) El-Space program investigates how to improve rail underpasses for pedestrians and cyclists. In coordination with the Design Trust for Public Space, NYC DOT developed a valuable El-Space Toolkit which features 11 case studies across North America that cover the lifecycle of developing and implementing El-Space projects, highlighting lessons learned and how to improve El-Space conditions. This resource can be useful for planning improvements at the I-280, Pulaski Skyway, and/or Northeast Corridor overpasses within the West Hudson Study Area.

Filling Active Transportation Gaps

In Los Angeles, the Alameda Street Mobility Project aims to fill a gap in active transportation across a freeway and better connect residential and cultural uses to Union Station. This project is in the early planning phase and is led by the California Department of Transportation (Caltrans) and Metro. Completion is targeted for 2035. Being relatively early in the study's process, the methods and outcomes of this project will continue to offer insights for West Hudson for the next decade. Community engagement for the project has involved several local community organizations. The study included a public survey that reveals themes of pedestrian safety, increased mobility, and security and safety. Proposed concepts include creating a pedestrian and bicycle esplanade, a mix of closing and grade-separating off-ramps, one-way street conversions, and capping the highway to create open space opportunities.

Traffic Calming (Speed Reduction)

Major regional roadways such as I-280 or NJ 7 carry regional traffic that often passes through residential areas and lower-order roadways as cut-through traffic. Drivers passing through towns to commute and/or access these regional roadways often travel at higher speeds to reduce trip times which can impact safety or other modal trips at/near key access points. To reduce travel speeds and mitigate aggressive driving behavior on local streets, the City of Jersey City, in conjunction with the NJTPA, released the Jersey City Traffic Calming Toolkit in July 2024. This document provides a comprehensive review and updated guidelines for enhancing traffic safety through traffic calming strategies. Nine different traffic calming measures in Jersey City were inventoried at a total of 1,073 locations. The final toolkit offers a matrix of available traffic calming measures, including desired geometry, speed limits, and volumes for each, as well as a selection matrix with benefits and costs for each measure. Quantitative measures of effectiveness for

each measure were also determined. The methodology and summary tables offered in the toolkit provide examples and insights into how traffic calming can improve safety and mobility in the West Hudson study area.

4. Land Use

4.1 Overview

West Hudson is the westernmost portion of Hudson County, bounded by the Hackensack River on the east and the Passaic River on the west and south. The rivers separate the West Hudson area from the eastern portion of the County and from the City of Newark to the South. West Hudson is made up of three municipalities: Kearny, East Newark, and Harrison.

There is a mix of residential, commercial, industrial, and environmentally sensitive land uses in West Hudson. The western portion of this area is mostly characterized by residential areas supported by commercial uses concentrated along main corridors (Kearny Avenue, Midland Avenue, Schuyler Avenue, and Harrison Avenue), with some institutional services located throughout. This includes "Uplands Kearny," all of East Newark, and the northern half of Harrison (generally north of I-280). Residential areas have a mixed-use character with higher housing density along commercial corridors. Areas along the Passaic River were historically used for industrial purposes; redevelopment efforts over the past several decades are bringing recreational and environmentally sensitive land uses back to the waterfront.

The periphery of Harrison (generally southwest and east side) and South Kearny is characterized by urban, industrial, and transportation uses. These areas feature active warehousing and logistics centers supporting the storage and movement of freight, given the proximity of Ports Newark and Elizabeth. CSX and NJ TRANSIT both operate rail yards and maintenance facilities in this portion of West Hudson.

Table 4 - Top Land Uses in West Hudson County

Land Use Cover	Acres	% of West Hudson
Urban – Residential	1,644.5	22.1%
Urban – Transportation	1,219.2	16.4%
Water (Inland)	1,215.1	16.3%
Barren Land	967.7	13.0%
Urban – Industrial	856.9	11.5%
Urban – Other	757.5	10.2%
Forest	364.2	4.9%
Wetlands	255.1	3.4%
Urban – Recreation	145.0	1.9%
Urban – Uplands Right of Way	15.9	0.2%

The central portion of the West Hudson study area is located entirely in Kearny and is characterized by inland water, wetland, and forested areas (environmentally sensitive land), making up just under 25 percent of the land use cover in West Hudson. The Town of Kearny zoning designations note that the majority of this area is within a marshland preservation area or special use districts. This includes about 681 acres of saltwater marshes, the Saw Mill Creek Wildlife Management Area, and the Kearny Freshwater Marsh (Town of Kearny, 2021). This area is spanned by I-280, I-95, the Newark-Jersey City Turnpike (CR 508), and the Belleville Turnpike (NJ Route 7). There are some commercial and industrial uses abutting these natural areas.
The top five land uses in West Hudson are urban residential, urban transportation, inland water, barren land, and urban industrial. Urban uses are characterized by intensive land development, further characterized into urban residential; commercial and service; industrial; transportation, communication

and utilities; industrial and commercial complexes; mixed urban or built-up; and recreational. A built-up environment refers to man-made physical spaces that include buildings, utilities, transportation infrastructure, transportation systems, or any other modified structures and spaces where people live and work. Inland water refers to lakes, reservoirs, rivers, streams, and estuaries. Barren land is characterized by thin soil, sand, or rocks and a lack of vegetative cover in a non-urban setting. Barren land also encompasses altered lands like solid waste disposal areas. The barren lands in West Hudson Study Area contain several active and former landfill sites – a major constraint for future redevelopment efforts.

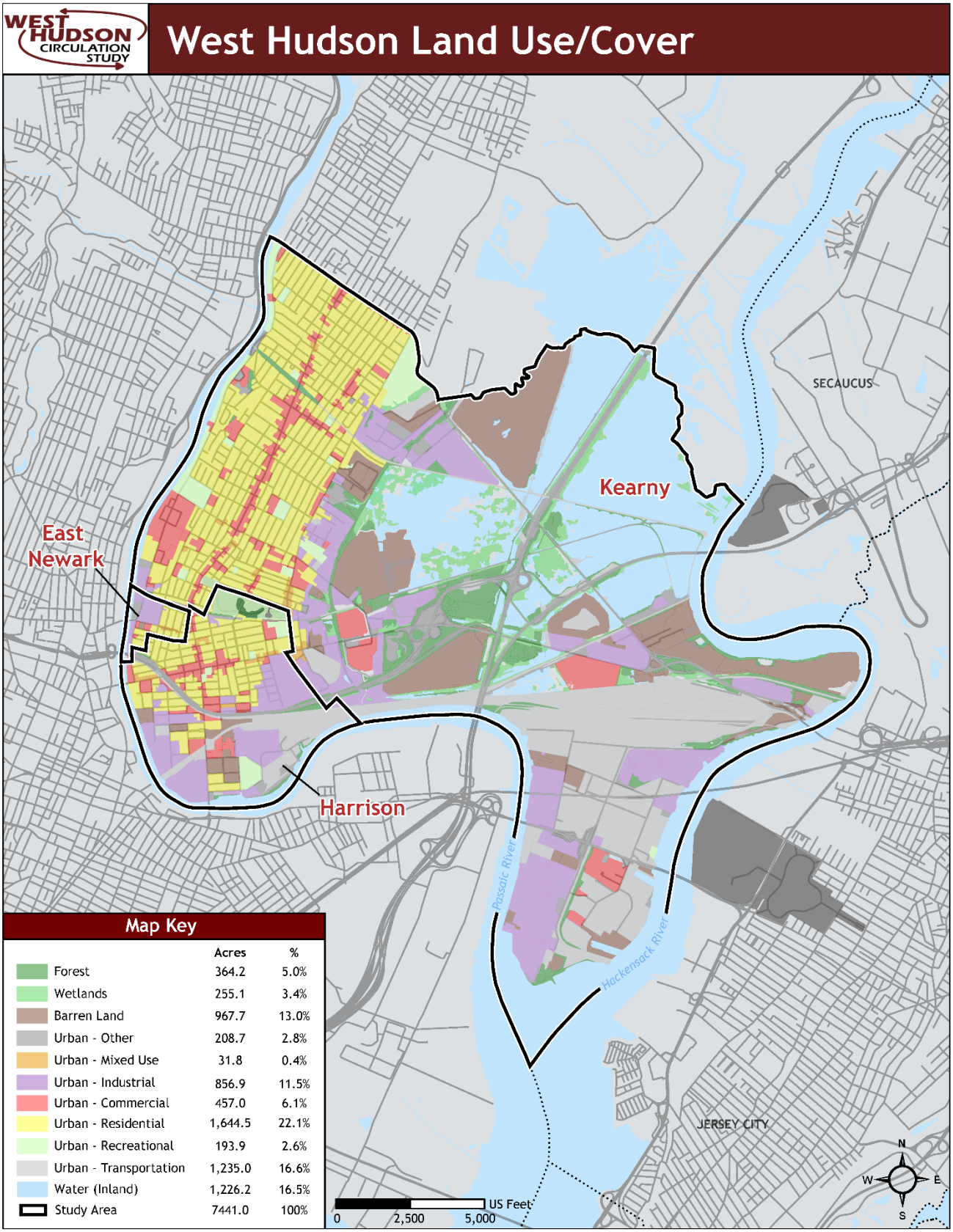

Figure 11 - West Hudson Land Use Map

4.2 Redevelopment Areas

There are several redevelopment plans throughout West Hudson, described below. See the following table for information on each redevelopment area.

Table 5 - Redevelopment Areas in West Hudson

Redevelopment Area	Year Adopted	Entity with Jurisdiction
Schuyler Ave Redevelopment Area	2013	Town of Kearny
Industrial Park Redevelopment Area	2013	Town of Kearny
Passaic Ave Redevelopment Area	2017	Town of Kearny
Kearny Point Redevelopment Area	2014	Town of Kearny
Kearny Area Redevelopment Area	2000	NJ Sports & Exposition Authority (NJSEA)
Belleville Turnpike Redevelopment Area	1996	NJSEA
Koppers Coke Peninsula Redevelopment Plan	2012	NJSEA
Harrison Waterfront Redevelopment Plan	1997	Town of Harrison
East Newark Redevelopment Area	2007	Town of East Newark

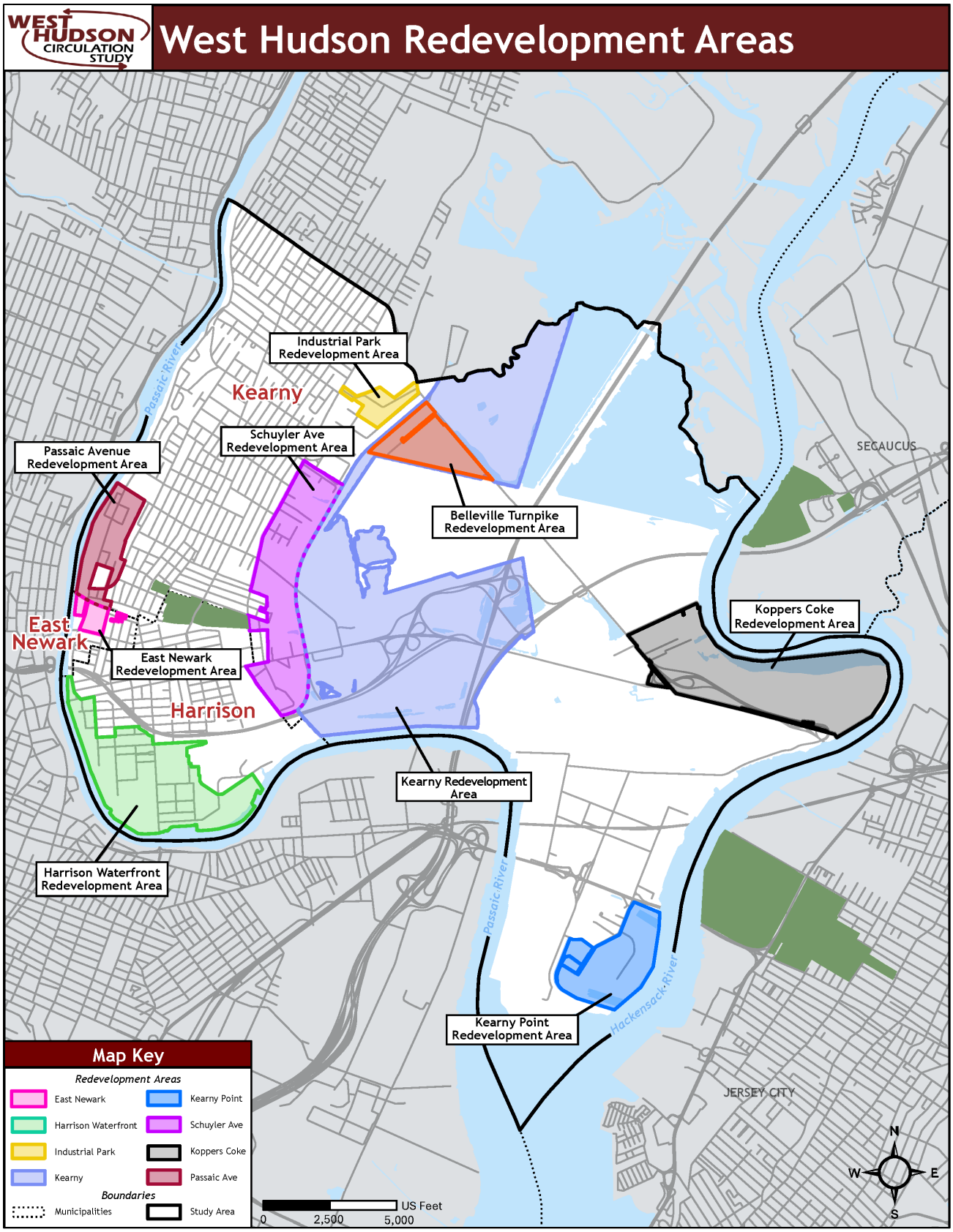

Figure 12 - West Hudson Redevelopment Areas

Schuyler Ave Redevelopment Area: This redevelopment area was established in 2013 to redevelop the area known as Jeryl Industrial Park and the adjacent property owned by Tierra Solutions, Inc. The area is bounded by Arlington Avenue to the north, the Kearny Redevelopment Area to the east, the Town of Harrison to the south, and Schuyler Avenue to the west. This area acts as a buffer between residential areas and the Meadowlands District. Permitted uses include multifamily residential, mixed commercial/residential uses, and existing telecommunications facilities.

An amendment to this plan was adopted in 2019, with the goal of reorganizing the underutilized, underperforming, intensive, conflicting, and inappropriate land uses currently occupying the Schuyler Avenue area into an integrated, mixed-use, and multi-functional area that is economically profitable, socially stimulating, and environmentally responsible for all residents of the Town of Kearny. The amendment reorganized the redevelopment area into eight districts; the commercial district, the adaptive reuse overlay district, the light industrial district, the business district, the mixed-used district, the transit-oriented district, the open space, parks, and recreation district, and the residential district.

The Plan recommends significant improvements to the roadway network that will provide access to future developments, minimize heavy truck volumes on Schuyler and Bergen Avenue, and provide additional connections from the proposed Harrison-Kingsland Branch line station at the intersection of Bergen Avenue and the existing rail line in Kearny, to surrounding destinations. Proposed recommendations include using available land along the rail tracks to introduce a new north-south road and new interior access roads and conducting a comprehensive circulation study for the Transit-Oriented District (Kearny, 2021).

Industrial Park Redevelopment Area: This redevelopment area was established in 2013 with the Schuyler Avenue Redevelopment Area. It includes several blocks north of the Schuyler Avenue Redevelopment Area. Permitted uses include light industry, warehouse and distribution facilities, public uses, wholesale establishments, flex space, and research laboratories. If a lot fronts the Belleville Turnpike, it may also be used for retail sales or services, restaurants, auto and truck sales and services, and gasoline service stations.

The Industrial Park Redevelopment Area Plan recommends changing circulation patterns by eliminating Turvan Road in favor of access to the Redevelopment area through the Belleville Turnpike onto Sellers Street. It also recommends extending a new street to Gross Avenue (Kearny, 2021).

Passaic Avenue Redevelopment Area: Established in 2017, this redevelopment plan repurposes neglected industrial land into a vibrant, mixed-use, waterfront destination in Kearny. The area is bounded by Bergen Avenue to the north, Belgrove Drive to the east, East Newark to the south, and the Passaic River to the west. It previously consisted of a mix of industrial, residential, and commercial real estate built during the first half of the 20th century. Much of this land became vacant or underutilized during the period of deindustrialization. To stimulate cohesive development throughout the area, the redevelopment plan designated the area into four districts; a 55.5 acre commercial center district, a 7.8 acre residential district, an 18 acre mixed-use district, and a 4.6 acre residential rehabilitation district. The redevelopment

planned for these districts seeks to improve the Town's tax revenue, create new job and housing opportunities, and promote both active and passive recreation along the Passaic River waterfront.

Circulation recommendations include consolidating access points to commercial areas along Passaic Avenue and increasing accessibility from Bergen Avenue and Belgrove Drive, implementing shared parking arrangements, and adding streetscape amenities like street trees, benches, integrated landscaping, and wayfinding signage to enhance pedestrian connections. The plan also recommends expanding the existing transit network. Transit improvements include adding a bus or jitney service to connect the redevelopment area and the Harrison PATH station, developing a Passaic River water taxi, and extending off-peak transit service (Kearny, 2021).

Kearny Point Redevelopment Area: The Kearny Point Industrial Park Redevelopment Area was established in 2014 and amended in 2018. The area contains 126 acres of land in South Kearny and is bounded by the Hackensack and Passaic Rivers. Historically, the area was used by the Federal Shipyard and Dry Dock Company, a subsidiary of US Steel. For the past 50 years, the area has been used primarily for warehousing and distribution facilities. Due to severe flood damage related to Superstorm Sandy, many of the buildings in this area were vacant or have been demolished. Due to its vulnerability to flooding, storm surge, and sea level rise, increasing environmental resilience is a key goal for this area. The South Basin is targeted for redevelopment into a working marina and a central point for recreational opportunities. A multi-phase approach will locate development away from the most environmentally sensitive areas, maintaining industrial and warehousing purposes in the central portions of the area. The Plan considers the site's parking supply, transportation connections, and site access, seeking to maintain a balanced development density by implementing a multi-phased strategy for redevelopment, with the initial phase focusing on the historic core of restored buildings. The site's abundant parking and ample highway access differentiate it from sites with similar characteristics located in New York City. Truck access is provided via Route 1&9 Truck, and a shared-use path was built along Hackensack Avenue to better accommodate foot and bike traffic within the Redevelopment Area.

Floodproofing measures are being used to elevate all buildings by 16 feet, with future flood protection planned along the Hackensack River (Kearny, 2021).

Kearny Area Redevelopment Plan: Established in 2000, the Kearny Area Redevelopment Plan covers approximately 445 acres in the Meadowlands District. The plan has been amended five times, most recently in 2024. It is located to the north of the Port Authority Trans-Hudson (PATH) line and to the west of the New Jersey Turnpike western spur. The area is bisected by I-280, Newark-Jersey City Turnpike (County Route 508), a Conrail freight line, and PSE&G right-of-way. Harrison and Bergen Avenues are the primary connections to the regional highway system, which also includes Route 21, Route 17, and Routes 1&9. Land uses include commercial, industrial, and warehouse uses, as well as three former landfills that are now closed. The area consists of an environmental preservation area, the Harrison Avenue retail center, a heavy industrial center, the Keegan Landfill center, a landfill reclamation area, a light industrial center, and approximately 145 acres of wetlands located throughout the development area. The 2020 master plan for the Meadowlands District notes that the redevelopment area is planned for four types of

land use designations: commercial center, logistics/industrial center, sustainable uplands reserve, and preserve areas. Commercial areas will accommodate regional commercial retail opportunities, generally along major transportation corridors. The logistics/industrial center planning area encompasses properties traditionally associated with heavy industry in the Meadowlands, including heavy industrial and logistics facilities, warehouse and distribution facilities, public utility uses, and intermodal rail facilities. The preserve planning area is comprised of the Hackensack River, its tributary network, and adjoining lands in the district. This includes most of the wetlands in the Meadowlands District. This planning area permits uses consistent with the preservation of open space and habitat protection and enhancement; wildlife management areas are encouraged. The sustainable uplands reserve planning area is associated with landfill areas. The objective for this area is to properly close the landfills using techniques that are proven to protect the environment, and, thereafter, to allow for uses that promote economic development in a manner that avoids negative impacts on the environment, such as installing renewable energy facilities or converting areas for recreational uses (NJSEA, 2024).

Belleville Turnpike Redevelopment Area: Established in 1996, the Belleville Turnpike Redevelopment Area has been amended five times, most recently in 2021. The area is approximately 79 acres and is generally bounded to the northeast by Belleville Turnpike (NJ 7), and the NJSEA's 1-E Landfill, to the south by NJ TRANSIT's Montclair-Boonton Line and the Kearny Freshwater Marsh, and to the northeast by the Harrison-Kingsland rail line and a mix of light and heavy industrial land uses that are outside of the Meadowlands District. The District's 1972 official zoning regulations and map initially designated this area as part of the Research Distribution Park Zone, which was intended to accommodate research, office, and warehouse facilities in a park-like environment, with substantial amounts of landscaped open space. The original redevelopment plan provided for a targeted approach to the revitalization of the area by permitting distribution facilities only. Amendments were adopted as the industrial sector continued to evolve over the past 20 years. The industrial market is currently being fueled by the rapidly changing e-commerce industry and last-mile logistics. The most recent redevelopment plan amendment supports industrial development and, specifically, e-commerce capabilities in the region. A balance of other interrelated land uses has been incorporated into the plan to further encourage coordinated growth in the redevelopment area (NJSEA, 2021).

Koppers Coke Peninsula Redevelopment Plan: Established in 2012, this plan covers 367.1 acres in the area known as the Standard Chlorine site or the Koppers Coke Peninsula. The area is bounded by the Hackensack River to the north and east, the Newark Turnpike to the south, and the Belleville Turnpike on the west, also including properties on Cross Pike Drive and Fish House Road, to the south, and the Kearny Brackish Marsh to the west. The existing land uses of properties in the redevelopment area are exclusively industrial uses and former industrial uses that are either abandoned or vacant. The area presents an opportunity for uses that seek to leverage potential road, rail, and marine transportation connections. Opportunity also exists to develop support services for the currently underserved industrialized properties in this section of Kearny. The area is not appropriate for residential uses due to the industrial character and environmental contamination issues.

The Plan encourages incorporating abandoned ROWs into adjacent properties, reconfiguring ROWs, and/or the achievement of access rights across ROWs that traverse properties. The Plan recommends creating an additional point of access to the Koppers Coke peninsula through Route 7 and exploring marine access through existing infrastructure. In the southern portion of the area, the Plan recommends improvements on Cross Pike Drive, encouraging businesses to avoid operations that affect or limit road access and circulation for the southwesterly portion of the area, and exploring secondary access to the southeasterly portion of the area from Fish House Road (NJMC, 2013).

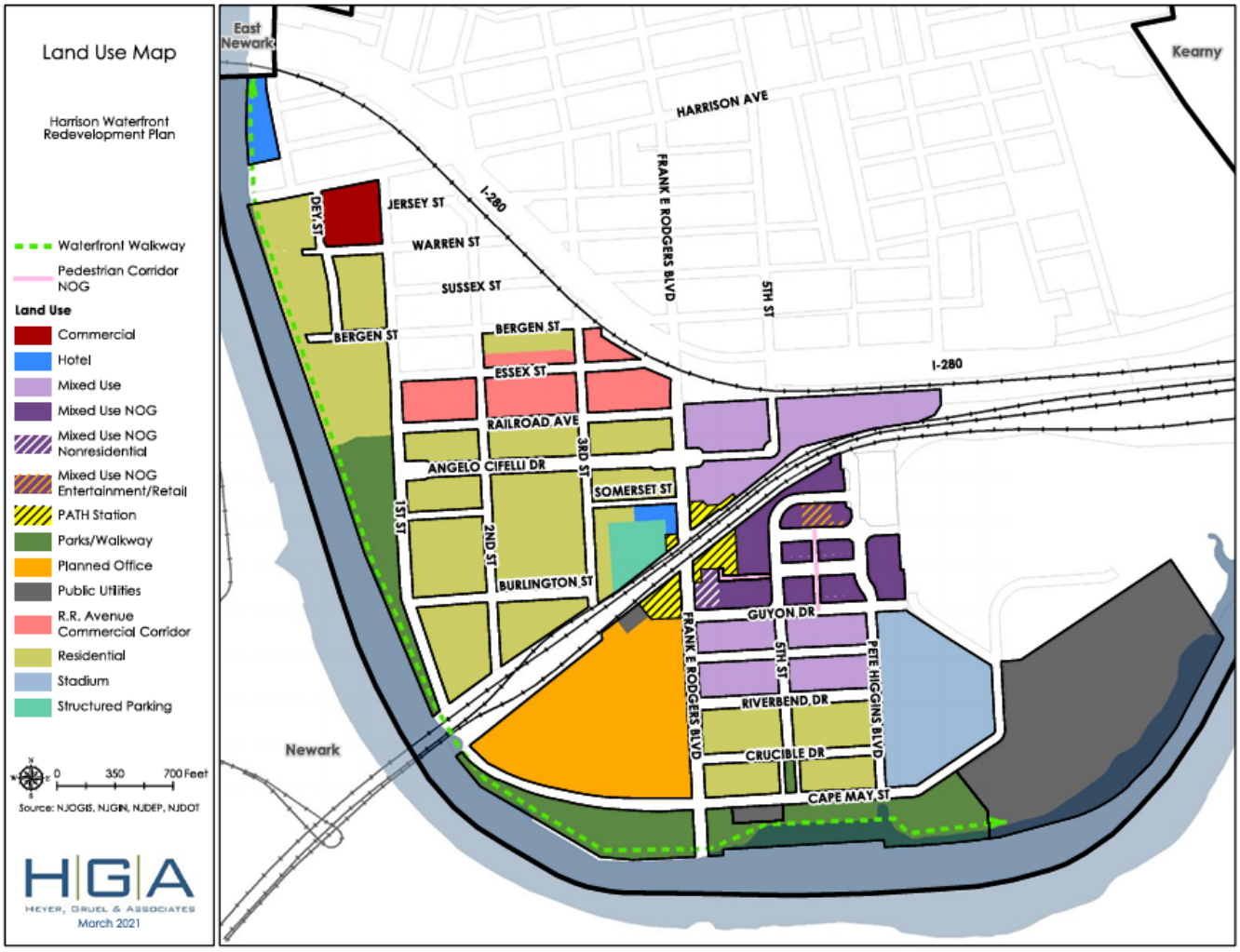

Figure 13 - Harrison Waterfront Redevelopment Plan Land Use Map. Source: [Town of Harrison Ordinance No. 1435]

Harrison Waterfront Redevelopment Plan: The Town of Harrison's Amended Harrison Waterfront Redevelopment Plan was adopted in April 2012. The document focuses on a 250-acre area (comprising 32 percent of the Town of Harrison) that was declared an Area in Need of Redevelopment (AINR) in 1997 and supersedes the 2003 redevelopment plan. Comprising the south and west portions of the Town along the Passaic River, the Plan presents a vision to create a vibrant mixed-use, transit-oriented, pedestrian-scale development that will make Harrison a regional destination. Historically industrial, the area once employed 90,000 people. Since the area was declared an AINR, several developments have been

completed, including the $200 million, 25,000-seat Red Bull Arena, a 1,440-space parking deck, a 136-room hotel, and several mixed-use projects. At the time of the plan, over $287 million had been invested or committed to the redevelopment of the area, and over one billion dollars of private investment had been expended or committed.

The Plan's aims include accommodating desired economic and social change by diversifying the economic base and expanding land uses to include uses such as retail, personal services, and family-oriented entertainment. Core principles include New Urbanist design and transit-oriented development, incorporating traffic calming measures where pedestrians must cross heavily trafficked streets. Another Plan recommendation is to close off pedestrian-focused areas like the Waterfront Boulevard – the proposed extension of First Street that connects to Cape May Street – to large truck traffic to reduce pedestrian and truck conflicts. Goals include minimizing cut-through traffic, capitalizing on the PATH station's presence, and evaluating the re-establishment of an NJ TRANSIT train station on Harrison Avenue near I-280.

The Plan identifies several circulation constraints, including a limited number of through-routes accessing the area, the presence of narrow roadways, double parking at the PATH station, restricted traffic flow onto I-280, and high volumes of pass-through traffic on Frank E. Rodgers Boulevard and Harrison Avenue. Additional recommendations include incorporating Complete Streets design elements, consolidating and upgrading commuter parking, constructing an interchange between I-280 and Cape May Street, and providing a waterfront walkway and park with flood control measures.

The Plan also includes a land use plan and standards for architecture, parking design, sustainable buildings, streetscaping, landscaping, and wayfinding. The Plan will remain in effect for 30 years from the date of approval (until 2042).

East Newark Redevelopment Area: This redevelopment area was established in 2007 and most recently amended in 2017. The area was divided into four sub-districts: the Riverside District, the Thread Mill District, the School House District, and the Public Facilities District. The Riverside District is planned to have a hotel. The Thread Mill District contains the Clark Thread Mill complex, which is currently undergoing major renovation into over 600 residences and 100,000 square feet of commercial space. The School House District contains the East Newark Elementary School and vacant land currently used for surface parking. Redevelopment within this area will include adaptive reuse of the school for residential and parking. The Public Facilities District consists of properties currently owned by the Borough and the vacant St. Anthony's School. A new school and related open space may be provided as part of redevelopment (East Newark, 2017).

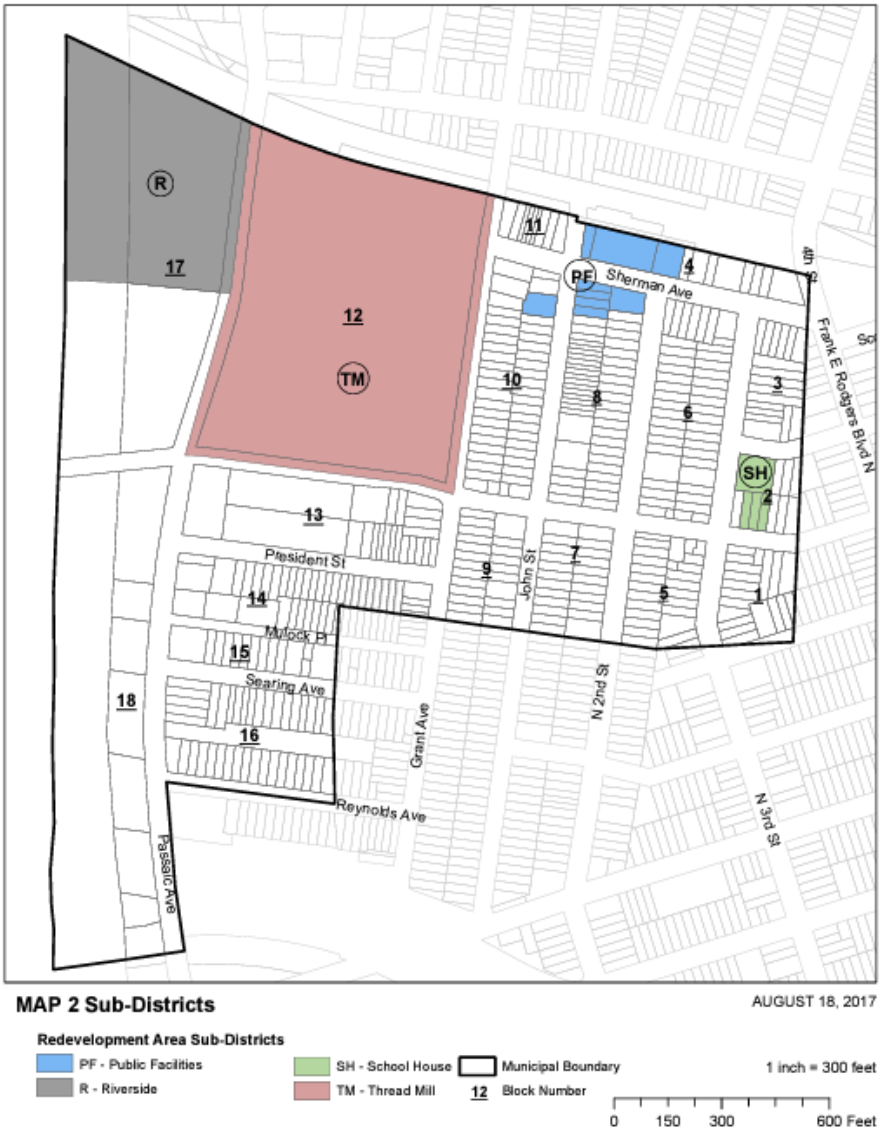

Figure 14 - East Newark Redevelopment Area. Source: East Newark Redevelopment Plan.

4.3 Key Destinations

There are a variety of key destinations within and surrounding West Hudson. Many of these are services and amenities designed for community use, while others are regional destinations. Community destinations include municipal buildings, community centers, long-term care facilities, libraries, daycare centers, and schools. These services are generally concentrated in residential areas of West Hudson, which are primarily located in Uplands Kearny, East Newark, and the northern portion of Harrison.

Examples of specific community services and resources include:

- Kearny Town Hall
- Harrison Town Hall
- Harrison Community Center
- Alaris Health (Belgrove and Kearny)
- Harrison Public Library
- Kearny Public Libraries
- Harrison Public Schools
- East Newark Public Elementary School
- Hudson Arts and Science Charter School
- East Newark Welfare Department

Regional destinations include hospitals, colleges and universities, arenas, and state-owned open space. These destinations draw in visitors and employees from within and beyond the study area. See the following map for locations of these destinations.

Examples of specific regional destinations include:

- Jersey City Medical Center
- University Hospital Newark
- Bayonne Medical Center
- Hudson Regional Hospital
- Rutgers Newark
- NJIT
- Berkeley College Newark
- New Jersey City University
- Hudson County Community College
- Seton Hall University
- Red Bull Arena
- Met Life Stadium
- Liberty State Park
- Sawmill Creek Wildlife Management Area
- Great Piece Meadows Preserve

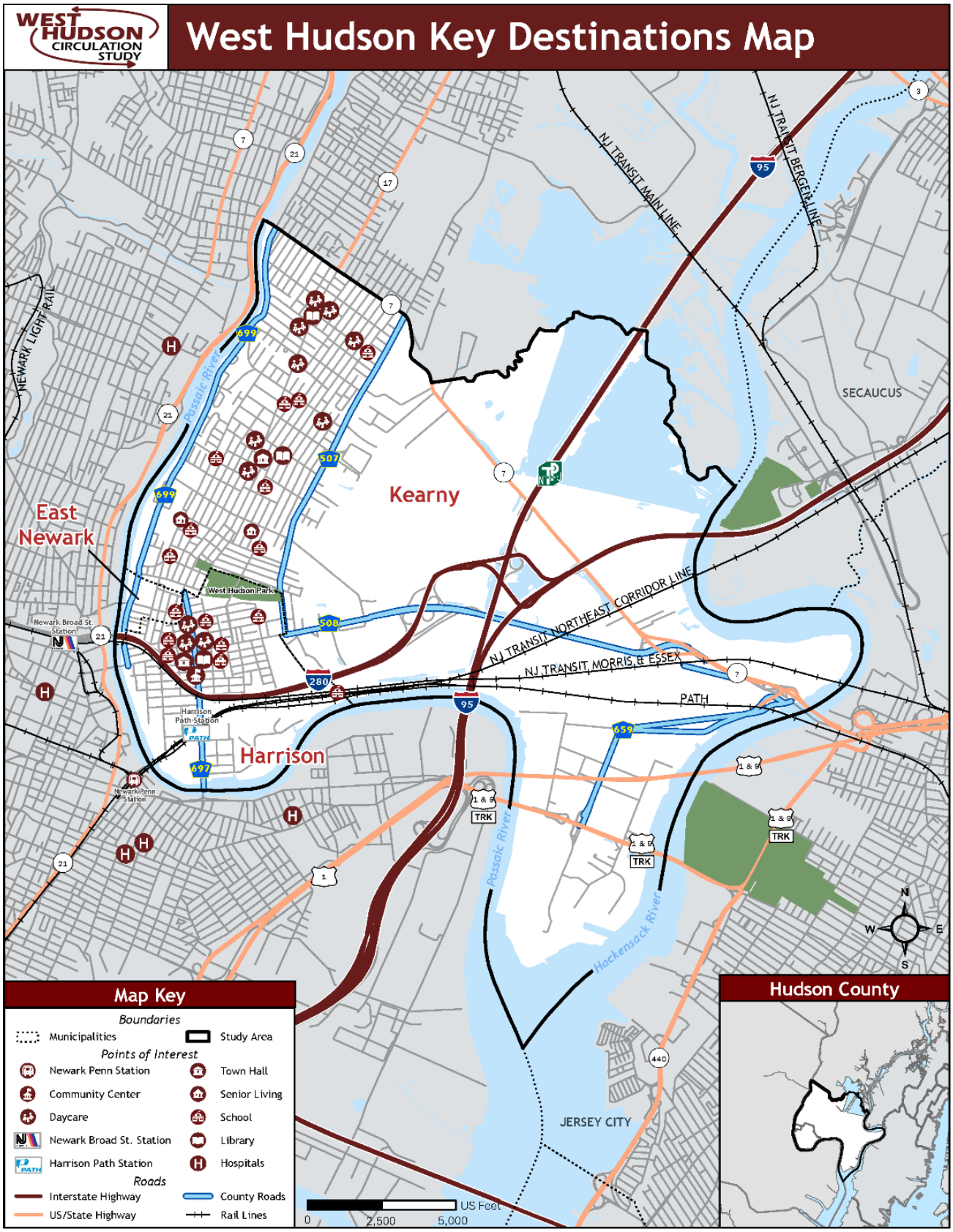

Figure 15 - Key destinations in West Hudson.

4.4 Employment Concentrations

Employment in the West Hudson study area is concentrated on two of the three main geographies in the district: the urbanized residential area in the west and the industrialized area in South Kearny. The central and northeast portions of the study area have low employment due to the presence of environmentally sensitive areas, including wetlands, and are sparsely developed. The urbanized residential area is further divided into employment sectors along major connecting streets such as Schuyler Avenue, Harrison Avenue, Passaic Avenue, and Frank E. Rodgers Boulevard. This area has a much higher concentration of unique job sites; however, the job sites in South Kearny have more jobs located at each individual job site.

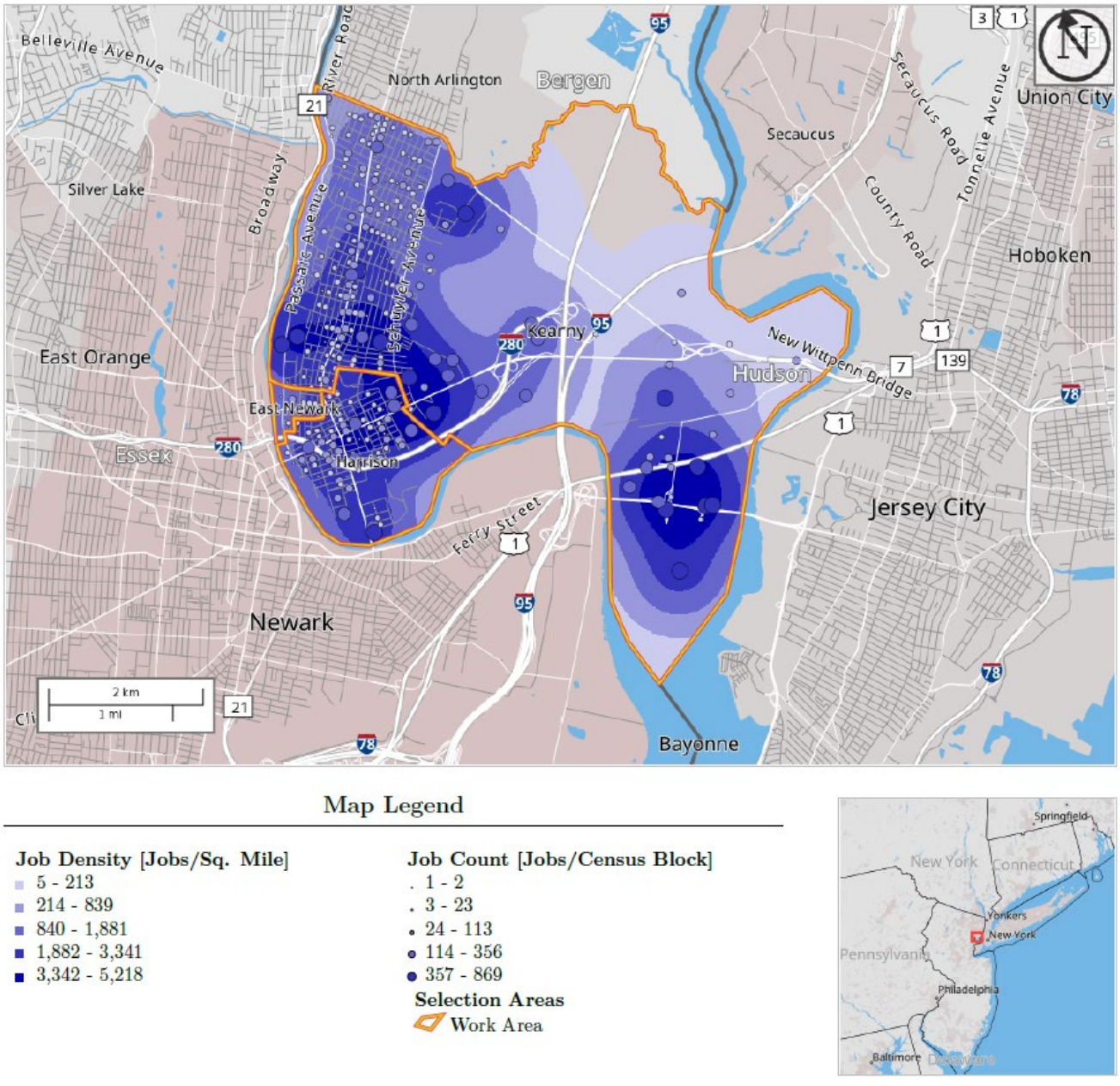

Figure 16 - Count and Density of All Jobs in the West Hudson Area
(Source: Map produced via OnTheMap from the United States Census)

There are 14,153 private primary jobs within the study area, with the largest concentrations in Transportation and Warehousing (21.4 percent), Retail Trade (15.7 percent), and Wholesale Trade (12.4 percent).

Table 6 - Jobs by Industry Sector in West Hudson Area 2021

Jobs by NAICS Industry Sector	Count	Share
Transportation and Warehousing	3,026	21.4%
Retail Trade	2,229	15.7%
Wholesale Trade	1,761	12.4%
Manufacturing	1,323	9.3%
Health Care and Social Assistance	1,092	7.7%
Administration & Support, Waste Management and Remediation	1,001	7.1%
Accommodation and Food Services	851	6.0%
Construction	636	4.5%
Other Services (excluding Public Administration)	558	3.9%
Real Estate and Rental and Leasing	303	2.1%
Professional, Scientific, and Technical Services	279	2.0%
Finance and Insurance	267	1.9%
Arts, Entertainment, and Recreation	267	1.9%
Utilities	240	1.7%
Agriculture, Forestry, Fishing and Hunting	148	1.0%
Educational Services	130	0.9%
Information	30	0.2%
Management of Companies and Enterprises	12	0.1%
Mining, Quarrying, and Oil and Gas Extraction	0	0.0%
Public Administration	0	0.0%
Total	14,153	100.0%

Source: United States Census OnTheMap 2021

Employment concentrations in the West Hudson study area are important for understanding where and how many people are commuting throughout the area for work. The study area has barriers to transportation, such as the Meadowlands and railyards in Kearny, yet there are many jobs located on either side of these barriers that have limited connections today. Enhancements to circulation and

connectivity to and from these employment concentrations, especially through and around these barriers, is integral in bolstering the study area economy.

4.5 Takeaways

The West Hudson study area has diverse land uses that fall into three main categories: urban residential, industrial, and environmental. Residential uses are concentrated in the western portion of the study area, supported by community services, commercial areas, and parks and recreation amenities. Commercial corridors and local roadways are key assets in the local transportation network, bringing people to key services and resources in their neighborhoods. Local redevelopment plans have created opportunities for continued enhancement of residential areas through the planning and implementation of dense, mixed-use, transit-oriented development.

Industrial land uses comprising warehousing, logistics, and manufacturing centers are primarily located in the southern portion of the study area, in parts of Kearny and Harrison. These areas are supported by regional highway systems that create critical connections within the greater New York City metropolitan area and beyond. Redevelopment plans will bring additional development into the area, which will require strong transportation connections for trucks.

Environmental areas in West Hudson are primarily concentrated in the Meadowlands District. Redevelopment plans focus on the conservation and preservation of wetlands, marshes, and rivers in the area. Plans will also enable some waterfront recreational opportunities, which may require transportation connections to allow access.

The distinct character of the study area impacts local and regional transportation conditions. Land use isolation (residential to the west, industrial to the south, and environmental to the north and east) and environmental constraints physically separate portions of the study area from each other and from the rest of the County and surrounding areas. This separation can contribute to vehicle dependency and limit the viability of other modes, particularly active modes which are more affordable and sustainable, with very limited environmental impacts. The lack of facilities for biking in particular can lead to conflicts, as bicyclists may be forced to use higher-volume and higher-speed roadways designed for capacity. Furthermore, the study area's environmental areas limit the ability to route motorized traffic away from some residential neighborhoods which can contribute to vehicular and non-vehicular conflicts.

5. Transportation Network

5.1 Street Inventory

The West Hudson study area features a combination of municipal and county roads as well as several interstates and state highways. The following list categorizes and describes significant roadways in Harrison, Kearny, and East Newark by their functional classifications.

Interstates: Interstates are major, limited-access highways that are part of the federal interstate highway system. Interstates are designed for long-distance travel and are typically limited to cars, buses, and light and heavy duty trucks. In West Hudson County, interstates include:

- I-280: Runs east-west through Harrison and Kearny, providing connections to destinations in Morris and Essex County to the west as well as I-95/NJ Turnpike, the Holland and Lincoln Tunnels, and New York City to the east.
- I-95/NJ Turnpike: Runs north-south through Kearny, and across the entire state of New Jersey, and along the east coast from Maine to Florida. I-95 connects West Hudson residents to local destinations in Essex and Bergen Counties as well as regional destinations throughout the northeast.

Other Freeways/Expressways: These types of roadways typically contain a physical barrier separating directional travel lanes and feature a limited number of access and egress points.

- US 1 & 9: Runs through the southeastern portion of Kearny, connecting to Central Avenue (CR 659) and providing access to Jersey City, Hoboken, and Union City.

Principal Arterials: Principal arterials are typically high-volume, high-mobility roadways with some degree of access control.

- Route 7 / Belleville Turnpike: Runs diagonally northwest to southeast through the Meadowlands, connecting western Kearny to industrial areas to the east.
- US 1&9 Truck: Runs south of US 1, through the southeastern portion of Kearny. Connects to Route 1 east of the Hackensack River and in Essex County.

Minor Arterials: Minor arterials are designed to support moderate-distance trips within and around small geographic areas. Travel speeds are lower than principal arterials.

- Harrison Avenue/Newark-Jersey City Turnpike (CR 508): Runs east-west between Harrison and Kearny and provides access to I-280, I-95, and the industrial sections of Kearny to the east.
- Schuyler Avenue (CR 507): Runs north-south through Kearny and Harrison and intersects with Harrison Avenue (CR 508).
- Passaic Avenue (CR 699): Runs north-south adjacent to the Passaic River through Kearny, East Newark, and Harrison.
- Central Avenue (CR 659): Runs through Kearny Point and industrial areas adjacent to the CSX South Kearny Yard, connecting to US 1&9 Truck.

Collectors: Collectors distribute traffic from higher volume roads such as arterials to local roads.

- Frank E. Rodgers Boulevard / Kearny Avenue (CR 697): Runs north-south through Kearny (as Kearny Avenue) and East Newark and Harrison (as Frank E. Rodgers Boulevard), with a connection to Newark at the Jackson Street Bridge over the Passaic River.
- Belgrove Drive: Runs north-south parallel to Passaic Avenue (CR 699).
- Davis Avenue: Runs north-south through Kearny and Harrison with a southern terminus at Harrison Avenue (CR 508).
- Bergen Avenue: Runs east-west through residential sections of western Kearny with an eastern terminus at Passaic Avenue (CR 699) and its western terminus at Harrison Avenue (CR 508).
- Central Avenue: Runs east-west through East Newark and Harrison with an eastern terminus at the Clay Street Bridge over the Passaic River and its western terminus at Kingsland Avenue in Harrison.
- Hamilton Street: Runs east-west through Harrison two blocks north of Harrison Avenue (CR 508).

Local: Local roads are neighborhood streets that provide connections between residential areas, local destinations, and larger roadways. Most streets in Harrison, East Newark, and Kearny are Local Roads under municipal jurisdiction.

Source: NJ Roadway Network GIS Layer created by NJDOT via NJGIN

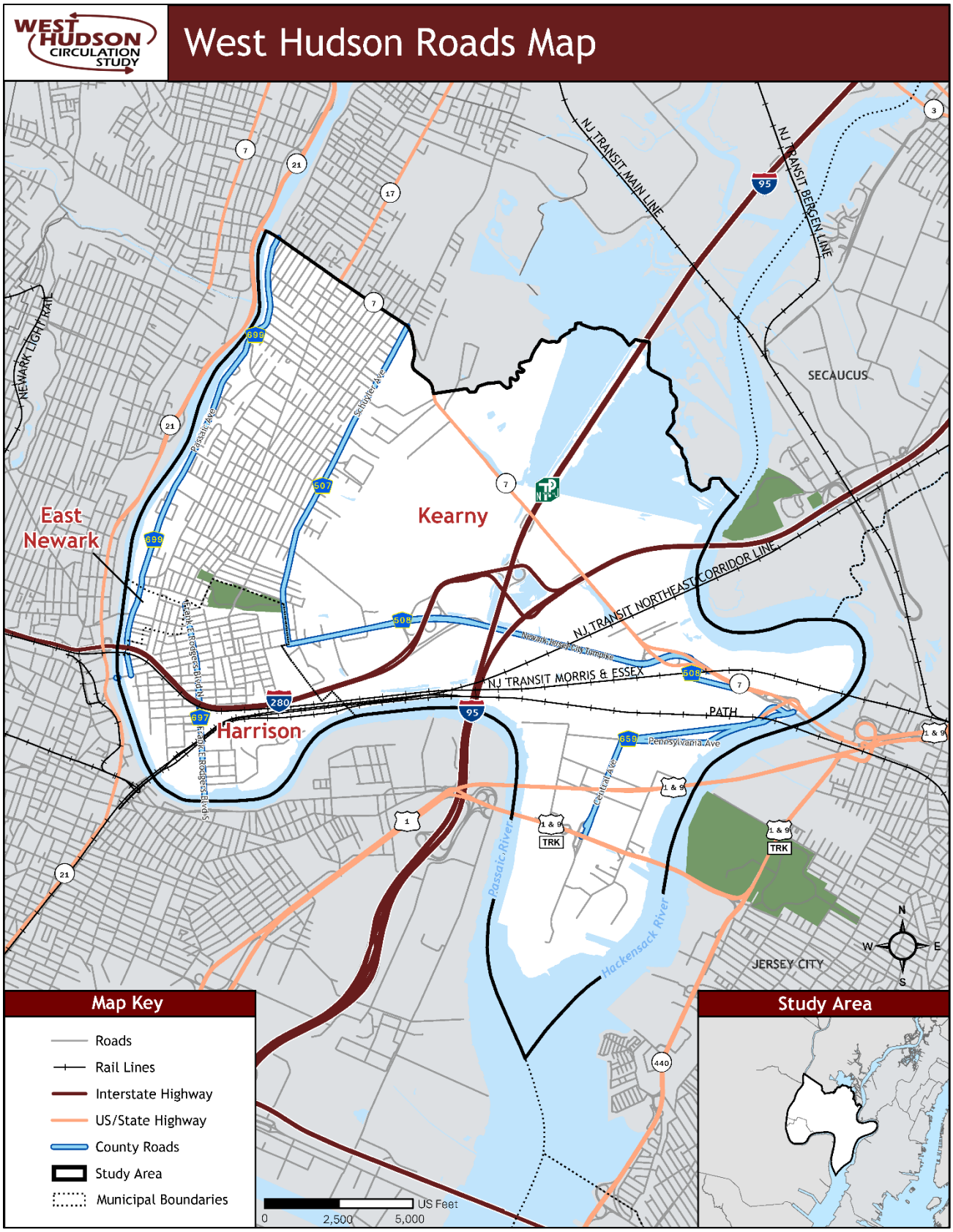

Figure 17 - Major regional roadways in the West Hudson study area.

5.1.1 Posted Speed Limits

Based on a desktop survey and review of NJDOT roadway data, most roads in Harrison, East Newark, and Kearny have a posted speed limit of 25 miles per hour (mph), including minor arterials and collectors. Harrison Avenue/Newark-Jersey City Turnpike (CR 508) is the exception and has a posted speed limit of 25 mph, including the sections where the roadway traverses the Meadowlands, provides access to I-280 and I-95, and connects to the industrial sections of Kearny.

Several streets in the West Hudson study area, including Hamilton Street, Harrison Avenue, and Bergen Street, feature transverse rumble strips to help mitigate speeds and draw attention to intersection controls (i.e., traffic signals and stop signs).

I-280 has speed limits ranging from 40-50 mph where it passes through the study area, while I-95 has a speed limit of 55 mph where it traverses Kearny. Other segments of freeways/expressways in the study area have speed limits ranging from 30 mph to 50 mph, depending on the roadway and location.

Source: NJ Roadway Network GIS Layer created by NJDOT via NJGIN

5.2 Multimodal Inventory

5.2.1 NJ TRANSIT Bus Service

Currently, NJ TRANSIT operates five bus routes in East Newark, Kearny, and Harrison. The five routes include:

- Route 1 – Newark to Jersey City
- Route 30 – Newark to North Arlington
- Route 40 – The Mills at Jersey Gardens to Kearny
- Route 76 – Newark to Hackensack
- Route 109 – North Newark/Harrison to New York

As shown in Figure 18, these bus routes provide service throughout Harrison, East Newark, western portions of Kearny, and South Kearny, with connections to downtown Newark, Jersey City, Hackensack, local PATH and NJ TRANSIT rail stations, The Mills at Jersey Gardens, IKEA, and other nearby destinations.

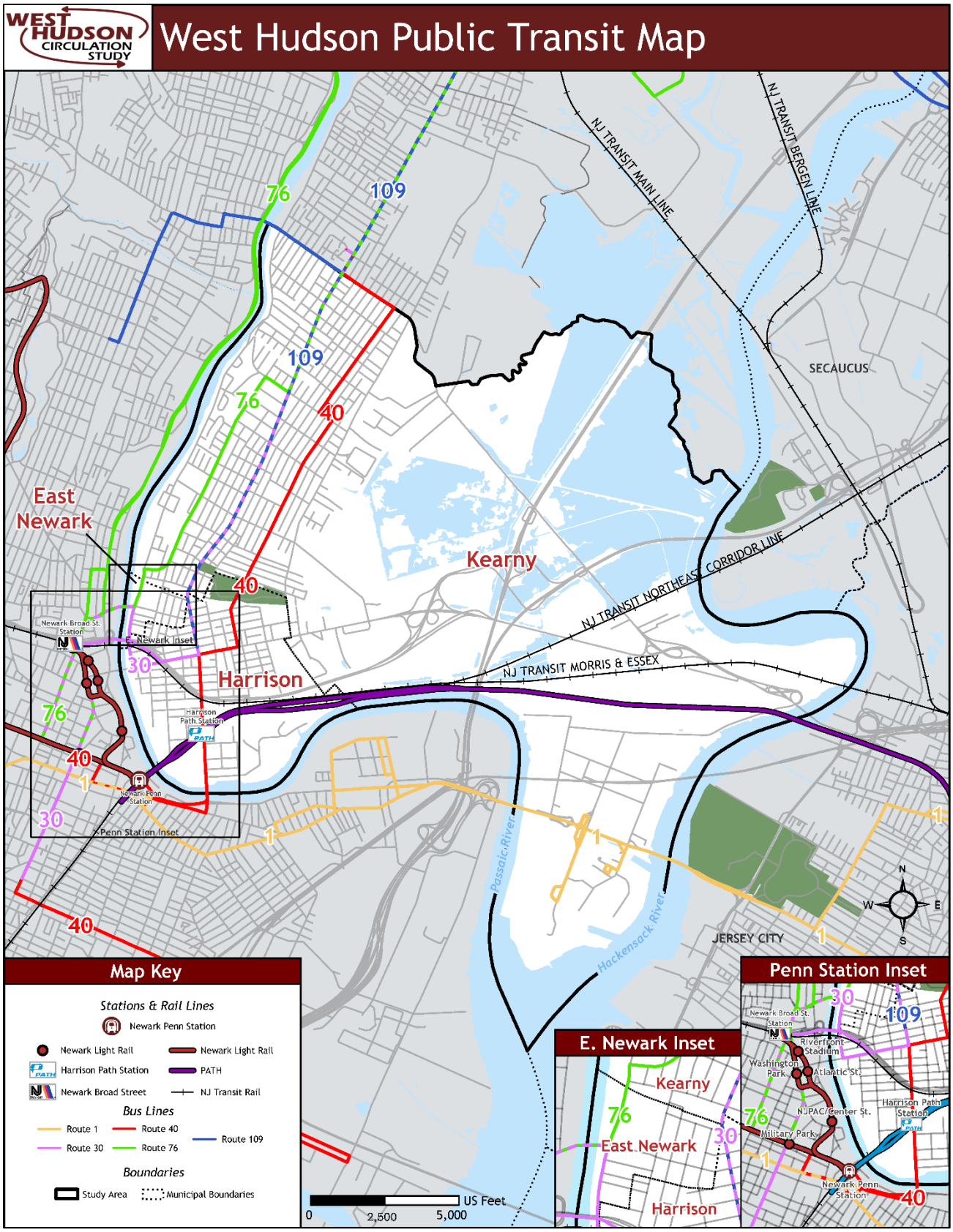

Figure 18 - West Hudson Public Transit Services

As discussed in the literature review, NJ TRANSIT is conducting an ongoing effort to restructure the local and intrastate bus network in the Newark area (Newbus Newark) to better align with customer needs. Table 3 in Chapter 2 includes more detail about the proposed changes to these routes. A summary of the recommendations includes:

- Increased bus service frequency
- Increased spans of service (i.e., operating hours)
- Split Route 1 into multiple routes, two of which will operate between Newark Penn Station and Jersey City through Kearny.
- Extend Route 5 to operate on Harrison Avenue in Harrison and Kearny and provide service to the Kearny Walmart.
- Reroute Route 30 to operate on Belgrove Avenue instead of Kearny Avenue in Kearny.
- Eliminate Route 40 connections to the Port.
- Reroute Route 76 to operate on Kearny Avenue using the same alignment as the existing Route 30 and streamline service north of Kearny to improve travel times to Hackensack Terminal.

In addition, NJ TRANSIT is currently undertaking the NewBus Hudson initiative, which will provide a comprehensive plan to reimagine bus service in Hudson County.

Source: Essex/Hudson NJ TRANSIT Bus GIS Layers created by NJ TRANSIT via NJGIN

5.2.2 NJ TRANSIT Paratransit Service

ACCESS LINK provides door-to-door paratransit services for persons with disabilities who are unable to access the local fixed-route bus system. Riders must complete an application and assessment process to determine if they are eligible for paratransit service. ACCESS LINK operates within ¾ mile of the local fixed route bus service at the same days and hours as the fixed route bus.

Source: Access Link ADA Paratransit | New Jersey Public Transportation Corporation

5.2.3 Passenger Rail

NJ TRANSIT passenger rail routes pass through Kearny and Harrison, but there are no NJ TRANSIT passenger rail stations in the West Hudson study area. The closest NJ TRANSIT rail stations are Newark Penn Station and Newark Broad Street Station, which are located across the Passaic River in the City of Newark.

Newark Penn Station is served by NJ TRANSIT's Northeast Corridor Line, North Jersey Coast Line, and Raritan Valley Line, which provide service to regional destinations including but not limited to the following:

- Northeast Corridor Line: New York City, Secaucus Junction, Newark Liberty International Airport, Elizabeth, Metropark, New Brunswick, Princeton, Hamilton, and Trenton.

- North Jersey Coast Line: New York City, Secaucus Junction, Newark Liberty International Airport, Elizabeth, Woodbridge, Middletown, Red Bank, and Long Branch, with limited service to destinations such as Asbury Park, Belmar, Point Pleasant Beach, and Bay Head.
- Raritan Valley Line: Newark Penn Station, Union, Roselle Park, Cranford, Garwood, Westfield, Plainfield, Dunellen, Bridgewater, Somerville, and Raritan, with limited service to destinations such as North Branch, White House, Lebanon, and High Bridge.

Newark Penn Station is also served by several Amtrak routes, which offer inter-city rail connections throughout the nation.

Newark Broad Street Station is served by NJ TRANSIT's Morris and Essex and Montclair-Boonton Lines, which provide service to regional destinations including but not limited to the following:

- Morris and Essex Line: East Orange, Orange, South Orange, Maplewood, Short Hills, Summit, Basking Ridge, Bernardsville, Chatham, Morristown, Denville, and Hackettstown.
- Montclair-Boonton Line: Bloomfield, Glen Ridge, Montclair, Little Falls, Boonton, Denville, Dover, Netcong, and Hackettstown.

Several NJ TRANSIT bus routes operates between these train stations and the West Hudson study area, connecting residents to additional transit service in Newark.

Source: NJT System Map April 2023

5.2.4 Port Authority Trans-Hudson (PATH)

One PATH rail line, the Newark to World Trade Center route, has a stop in the study area at Harrison station on Frank E. Rodgers Boulevard.

Table 7 - Harrison PATH Station Ridership, 2019-2023

	2019	2020	2021	2022	2023
Average Weekday	9,143	3.062	3,195	4,674	5,623
Average Saturday	3,335	1,168	2,071	2,672	3,175
Average Sunday	2,262	891	1,423	1,890	1,972
Average Holiday	3,794	1,673	1,991	2,494	2,892
Average Daily Count	7,174	2,443	2,783	3,921	4,564
Annual Weekday Total	2,285,677	768,578	795,522	1,163,930	1,394,394
Annual Saturday Total	173,399	60,733	107,701	141,593	165,104
Annual Sunday Total	117,604	46,311	73,993	98,290	104,530
Annual Holiday Total	41,736	18,407	23,889	27,429	34,701
Grand Total	2,618,416	894,029	1,001,105	1,431,242	2,003,064

A significant decrease in ridership occurred in 2020 due to the COVID-19 pandemic. From 2019 to 2020, average weekday ridership decreased by 66 percent. Ridership at Harrison Station has been gradually recovering in the years since 2020. In 2023, the average daily ridership was 63.6 percent of the pre-pandemic levels observed in 2019.

Source: PATH Ridership Report 2019 – 2023 provided by PATH via Stats

5.2.5 EZ Ride

EZ Ride Transportation Management Association (TMA) operates two shuttle services in the West Hudson study area during peak morning and evening commuting hours, including:

- Route 232: Kearny Avenue Line Shuttle – This shuttle provides service between the Harrison PATH Station and Garden Terrace in North Arlington, while serving stops along Ridge Road and Kearny Avenue. The shuttle operates from 6:20 a.m. to 9:20 a.m. and from 4:30 p.m. to 7:35 p.m. on weekdays.
- Route 241: One Harrison/Water's Edge – This shuttle offers service between the Harrison PATH Station and three residential complexes: One Harrison, Water's Edge, and Dey & Bergen. Shuttles operate from 6:20 a.m. to 9:20 a.m. and from 4:30 p.m. to 7:35 p.m.

Source: Routes – EZ Ride | New Jersey Shuttle Transportation

5.2.6 Hudson County TRANSCEND

Hudson County's TRANSCEND provides transportation services to adults over the age of 60, disabled adults over the age of 18, and veterans for medical appointments, shopping, employment, and other trip purposes. Transportation is provided to various locations within Hudson County, with limited service to Essex and Bergen Counties. Service is available Monday through Friday, with limited service for dialysis patients on Saturdays. TRANSCEND provides trips to multiple hospitals in the surrounding area on select days.

Source: Transportation Services (TRANSCEND) - Hudson County

5.2.7 Bicycle Facilities

There are several existing and proposed bicycle facilities in the West Hudson study area, shown in Figure 19, including:

- Kearny Riverwalk: This shared-use path runs along the Passaic River in the western part of the study area. The path currently runs between Marshall Street (southern extent) and Bergen Avenue (northern extent). An extension of this path would occur with future implementation of the Passaic River Greenway.
- Essex-Hudson Greenway (Proposed): This project is a proposed nine-mile shared-use path that would run through Jersey City, Secaucus, Kearny, Newark, Belleville, Bloomfield, Glen Ridge, and Montclair. In West Hudson, the proposed trail alignment runs east-west across the northern portion of Kearny. The Kearny segment of the Greenway is planned to begin in northern Kearny at

the WR Drawbridge and run in a former rail right-of-way north of and generally parallel to Midland Avenue.

- 911 Memorial Trail: This 1,500-mile multi-use trail connects the Pentagon Memorial in Virginia, the Flight 93 National Memorial in Pennsylvania, and the September 11 Memorial and Museum in New York City. The segment of the trail in the West Hudson study area runs along US 1&9 Truck through Kearny Point and provides connections to Newark and Jersey City.
- Central Avenue Shared-Use Path: This new shared-use path was constructed parallel to Central Avenue in South Kearny to enhance workforce access and overall connectivity to businesses in South Kearny.

As discussed in the literature review, the North Jersey Active Transportation Plan proposes an aspirational network of facilities to comprise a regional active transportation system. The regional network roadways in the West Hudson study area include Frank E. Rodgers Boulevard and Harrison Avenue in Harrison, and Newark Turnpike, Kearny Avenue, and Belleville Turnpike in Kearny. The overlap between these roadways, population centers, and local transit service provides an opportunity to create or improve first- and last-mile connections between transit stations and population centers within Hudson County.

Bicycle parking is available at several schools and community centers in Harrison, including the PATH station, Red Bull Arena, Harrison High School, Washington Middle School, and newer residential buildings in the Harrison Waterfront Redevelopment Area.

Source: Essex Hudson Trails GIS Layer provided by NJGIN

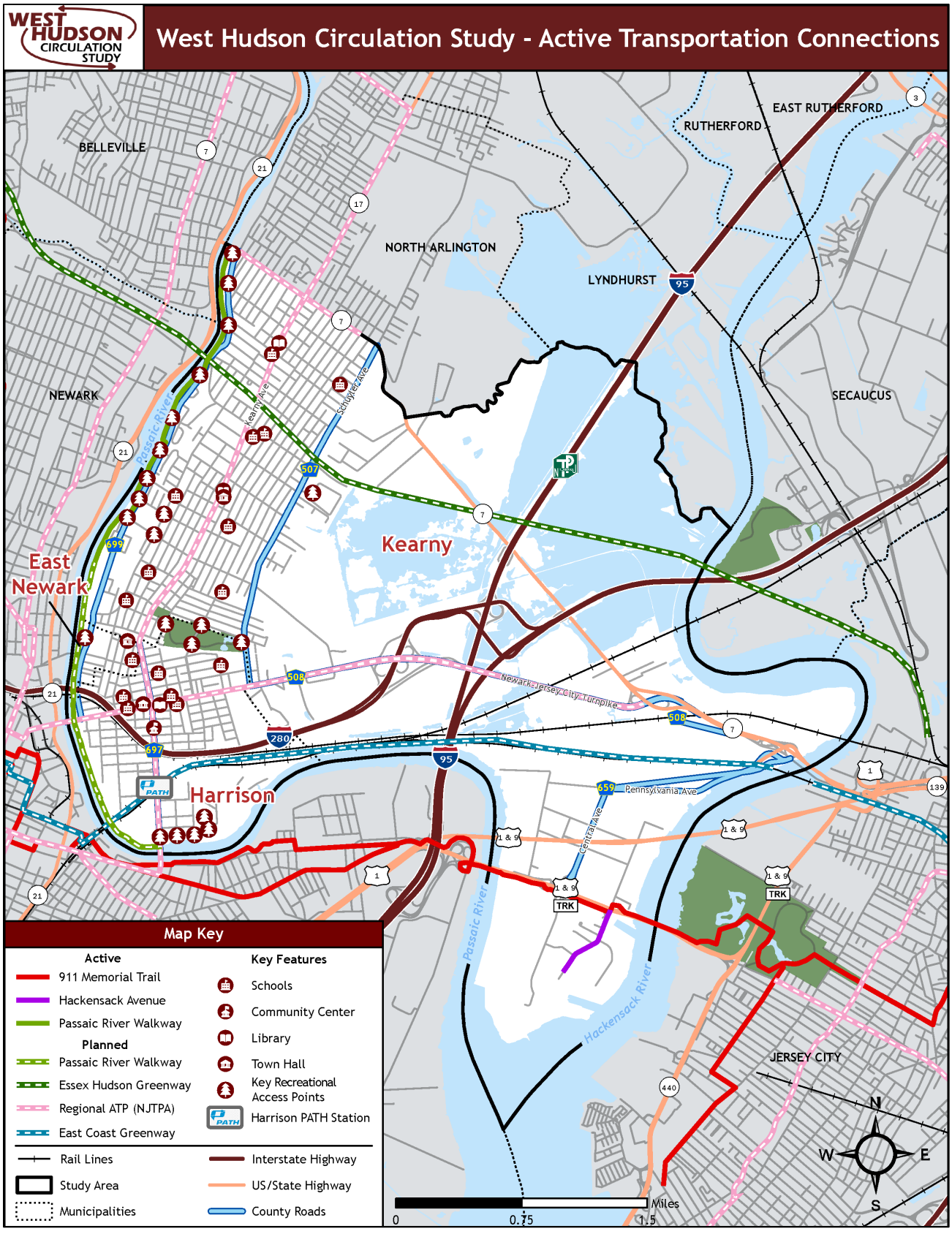

Figure 19 - Existing and Proposed Active Transportation Facilities in West Hudson

Level of Bicycle Compatibility

NJTPA analyzed the Level of Bicycle Compatibility (LBC), also referred to as the Level of Traffic Stress (LTS), along the regional road network. LBC ranks roadways 1 through 5 based on posted speed limits, number of travel lanes, presence of a bike lane or shoulder, and other factors. LBC scores are described below.

- LBC 1 segments include off-road bike paths, roads with protected bike lanes, roadways with posted speed limits less than 30 mph, and three or fewer lanes. These roadways offer little to no stress for bicyclists and are suitable for almost any bicyclist, including children.
- LBC 2 segments include protected bike facilities and/or a shoulder lane greater than 14-feet wide and posted speed limits of 30 mph or less. LBC 2 roadways feature little traffic stress and are suitable for most adult bicyclists.
- LBC 3 segments include principal arterials if they do not have bike lanes and all roads with a pavement width greater than 30 feet. These segments feature moderate traffic stress. Typically, only confident bicyclists would feel comfortable riding these segments.
- LBC 4 segments include roads with six or more lanes or at least four lanes with no shoulder and a speed limit greater than 35 mph. All roadway ramps in the NJTPA's analysis are coded as LBC 4. LBC 4 roadways have high traffic stress but may be suitable for very skilled bicyclists.
- LBC 5 segments are classified as interstates, freeways, and toll routes. These roadways prohibit bicycle travel.

Most local roadways in the West Hudson study area have an LBC of 3. Several collectors and minor arterials, including Passaic Avenue, Bergen Avenue, Belgrove Drive, Hamilton Street, and Schuyler Avenue have a rank of LBC 2. Many of the larger streets serving industrial parts of West Hudson have an LBC of 4, including Route 7 / Belleville Turnpike, Central Avenue (CR 659), and US 1&9 Truck. Portions of Harrison Avenue (CR 508) and Frank E. Rodgers Boulevard are split between LBC 2 and 4; higher-stress sections of Harrison Avenue are located between North 2nd Street and Frank E. Rogers Boulevard and east of Sanford Avenue, while higher-stress sections of Frank E. Rogers Boulevard are concentrated in the four-lane section between Bergen Street and the Jackson Street Bridge.

Source: NJTPA Level of Bicycle Compatibility GIS Layer via Level of Bicycle Compatibility

5.2.8 Sidewalks

In the densely populated residential and commercial areas of West Hudson, sidewalks are common. The network of sidewalks in Harrison, East Newark, and western parts of Kearny are well-connected throughout most of the area.

In more industrial areas of West Hudson, particularly South Kearny, the sidewalk network is fragmented; some streets like Central Avenue and Hackensack Avenue feature sidewalks, while others like Pennsylvania Avenue do not. There are also no sidewalks on Harrison Avenue east of Bergen Avenue, near the connections to I-280 and I-95 / New Jersey Turnpike.

5.2.9 Bridge Inventory

Bridges are critical features of the West Hudson transportation network, given the presence of water bodies on almost all sides of the study area. Bridges provide connections to Essex County, the City of Newark, and the eastern portion of Hudson County. The following bridges within the study area were therefore reviewed to understand high-level conditions and potential plans for improvement. These plans will be taken into consideration when study recommendations are being considered. All the bridges are operational for vehicular traffic. A few bridges also have pedestrian access: Clay Street, Bridge Street, Jackson Street, and the Belleville Turnpike Bridges.

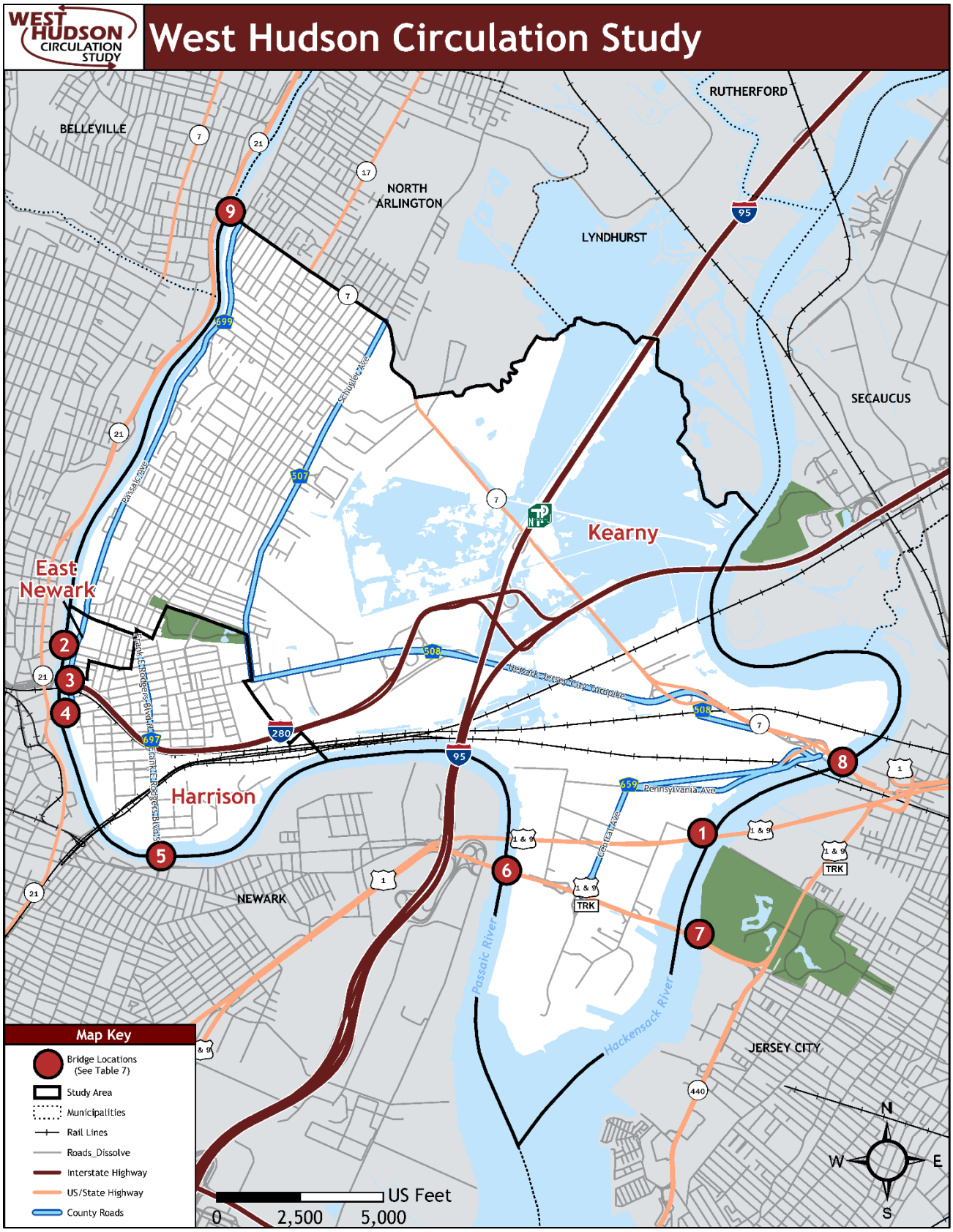

Figure 20 - West Hudson Bridges

Table 8 - West Hudson Bridges (numbers correspond to the map on the previous page)

Bridge	River Crossing	City	Owner	Year Opened	Length	Lanes	Sidewalk
1. Pulaski Skyway[1]	Passaic River & Hackensack River	Kearny	NJDOT	1932	3.5 mi	4	No
2. Clay Street Bridge[2]	Passaic River	East Newark	Essex and Hudson Counties	1908	328 ft	2	Yes, both sides
3. William A. Stickel Memorial Bridge[2]	Passaic River	East Newark	NJDOT	1949	688ft	6	Yes, both sides
4. Bridge Street Bridge[2]	Passaic River	Harrison	Essex and Hudson Counties	1913	371 ft	4	Yes, both sides
5. Jackson Street Bridge[2]	Passaic River	Harrison	City of Newark	1903	467 ft	4	Yes, both sides
6. Lincoln Highway Passaic River Bridge[3]	Passaic River	Kearny	NJDOT	1941	2,005 ft	4	Yes, both sides
7. Lincoln Highway Hackensack River Bridge[4]	Hackensack River	Kearny	NJDOT	1954	1,480 ft	6	Yes, both sides
8. Witt Penn Bridge[5]	Hackensack River	Kearny	NJDOT	2022	2,169 ft	6	No
9. Belleville Turnpike Bridge[2]	Passaic River	Kearny	NJDOT	2002	324 ft	4	Yes, both sides
Sources: [1] Pulaski Skyway (2024); [2] Passaic River Greenway Plan (2024); [3] Lincoln Highway Passaic River Bridge (2024); [4] Lincoln Highway Hackensack River Bridge (2024); [5] Route 7 Wittpenn Bridge (2024)							

1. Pulaski Skyway: Rehabilitation of the Pulaski Skyway began in 2012 and is expected to be completed in 2027 or 2028. Completed improvements and ongoing work include rehabilitation of the Route 139 Hoboken and Conrail Viaducts, deck replacement, rehabilitation to ramps and piers,

steel repairs, roadway improvements, seismic retrofits, substructure repairs, and painting the steel structure.

2. Clay Street Bridge: Hudson and Essex Counties are conducting a Local Concept Development (LCD) study of the Clay Street Bridge, which needs several repairs and improvements to address structural and functional design limitations.
3. William A. Stickel Memorial Bridge: NJDOT began a $33 million reconstruction and rehabilitation of the I-280 Stickel Bridge over the Passaic River between Newark, East Newark and Harrison in 2006. The deteriorated bridge deck and mechanical and electrical equipment that operate the vertical lift span for navigation traffic were replaced. The eastbound and westbound decks were reconstructed and all structural steel repainted. Work was completed in 2009.
4. Bridge Street Bridge: Hudson County and Essex County are conducting an LCD Study of the existing Bridge Street Bridge over the Passaic River. The bridge needs improvement to address structural deficiencies and maintain an important transportation connection for residents and commuters in Hudson County to and from Newark's downtown business district and residential areas. The bridge has been temporarily closed in recent years for structural and mechanical repairs. The Counties have recently received federal funding and are working with the municipalities in coordination with NJTPA and NJDOT to determine what improvements are possible.
5. Jackson Street Bridge: This bridge is grouped with the Clay and Bridge Street bridges under the NJTPA 2040 Regional Transportation Plan as needing funding for repairs. Repairing all three bridges will cost nearly $1 million dollars in capital investments. No study for the Jackson Street Bridge has been conducted yet.
6. Lincoln Highway Passaic River Bridge: There are no recent or upcoming developments.
7. Lincoln Highway Hackensack River Bridge: There are no recent or upcoming developments.
8. Witt Penn Bridge: Originally opened in 1930, the Witt Penn Bridge was fully replaced in 2021 and 2022. The project replaced the structurally deficient bridge, with the new bridge improving traffic operation and safety and increasing vertical clearance over the Hackensack River in the closed position to reduce vehicular and marine traffic conflicts.
9. Belleville Turnpike Bridge: There are no recent or upcoming developments.

Source: National Bridge Inventory GIS Layer created by FHWA provided by NJGIN

5.3 Takeaways

West Hudson's transportation network reflects and supports its surrounding land uses. The western portion of the study area contains predominantly residential uses, complemented by community services, commercial areas, and parks and recreation amenities. These areas feature mostly 25 mph local roadways with on-street parking, along with several county-owned collector and arterial roadways

connecting residents to commercial areas, while facilitating north-south and east-west travel through Kearny, Harrison, and East Newark. This area also features a largely connected sidewalk network allowing pedestrians to travel relatively safely and conveniently throughout much of the area. With a few exceptions, roadways in this area are relatively low-stress for bicyclists with LBC scores of 2 and 3. The Kearny Riverwalk also provides recreational opportunities and north-south bicycle and pedestrian connections along a limited stretch of the Passaic River. This western section of the West Hudson area is also served by NJ TRANSIT bus service, EZ Ride shuttles, and the PATH, with additional transit options at Newark Penn Station and Newark Broad Street Station. In addition, NJ TRANSIT is exploring ways to enhance bus service in the area through the NewBus Newark and NewBus Hudson initiatives. Several other studies and proposals are further exploring circulation and safety improvements in the area, such as the Frank E. Rogers Boulevard Safety Improvements Study, Bridge Street Bridge LCD Study, and the Essex-Hudson Greenway.

Industrial uses located in the eastern and southern portions of the study area are supported by highway and arterial roadways with connections to New York City, the City of Newark, the City of Jersey City, and other destinations throughout the region. The industrial character of these sections generates significant truck traffic, and transportation infrastructure caters more to trucks and cars than pedestrians, bicyclists, and transit. For example, roadways in this area have higher posted speed limits, the sidewalk network is fragmented, and there is less access to public transportation. While serving local logistics and manufacturing centers will remain a transportation priority for this area, redevelopment may bring additional activity into the area, including waterfront recreational opportunities. Balancing the needs of trucks, cars, pedestrians, and bicyclists in this area while ensuring transit access to jobs is a key planning consideration for the future.

6. Commuting

Data for three variables concerning commuting was obtained from the United States Census 2018-2022 five-year estimates. These variables are 1) zero vehicle households, 2) commute mode, and 3) commute time. Zero vehicle households is recognized as demographic factors by the NJTPA. Data for the other two variables were analyzed at the municipal level, and their results are presented below. Reviewing these variables helps understand vehicle access and preference in the West Hudson study area.

6.1 Zero Vehicle Households

The zero vehicle households factor includes all households that reported not having a car and helps identify populations that lack access to this form of transportation and related opportunities.[3] People in this category may experience higher rates of social isolation, lower earnings, higher chances of unemployment or underemployment, higher rates of injury or fatality in a crash, lack of access to opportunities, and fewer mobility options.

Figure 21 shows census tracts Above Average in the following areas:

- northwest Harrison

The percentage of households without a car is lower in the West Hudson study area (21.7 percent) than the County (32.5 percent), and significantly higher than in the NJTPA region (12.1 percent), and state (11.3 percent).

[3] NJTPA. (2020). *Title VI and Environmental Justice Assessment Guide for Planning Studies*. NJTPA. Retrieved from Equity Resources: https://equity-resources-njtpa.hub.arcgis.com/

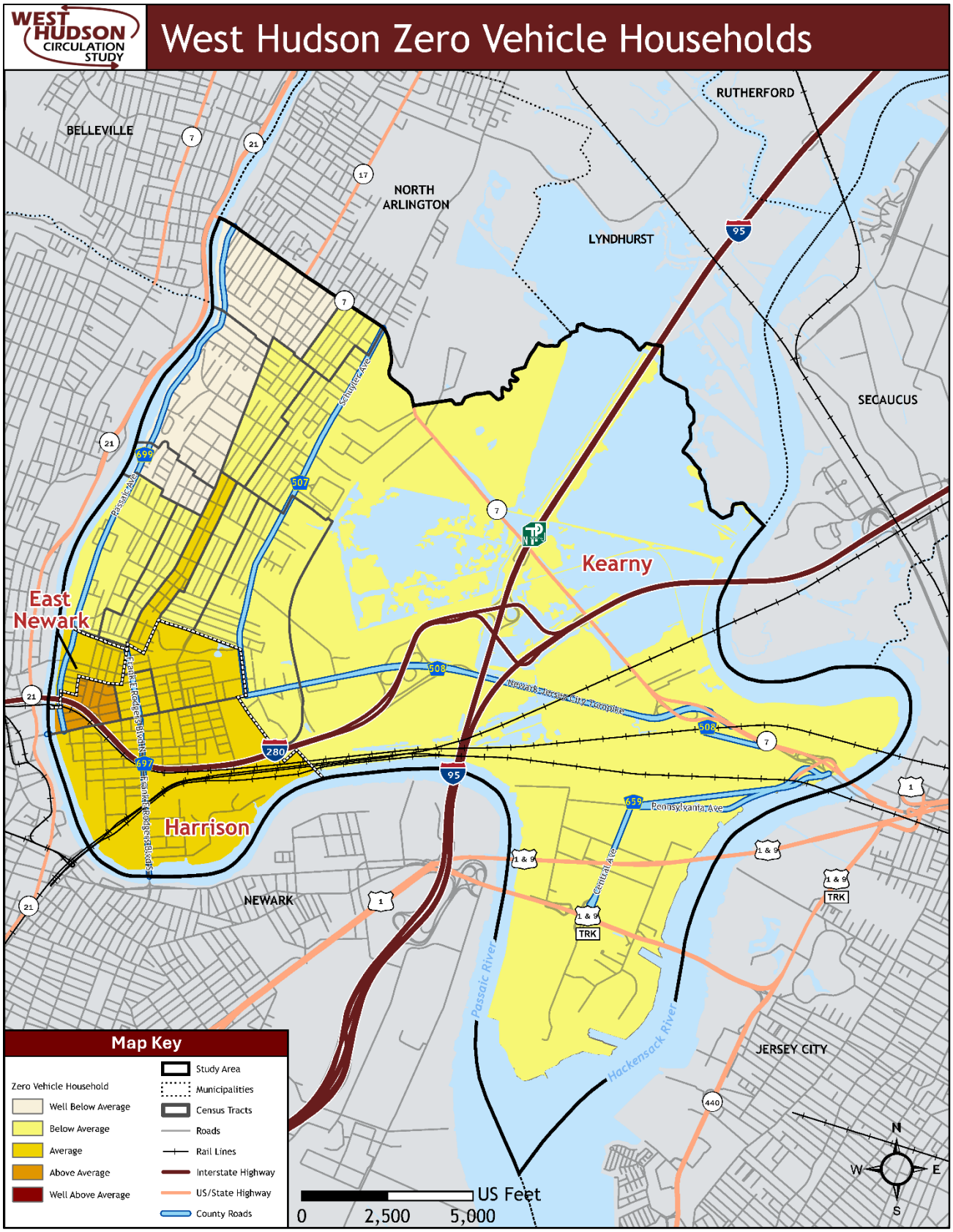

Figure 21 - Zero Vehicle Households, 2022

6.2 Commute Mode

Commute mode by municipality is detailed in Table 9 - Commute Mode by Municipality, 2022. Census respondents are only able to select one commute mode, that "used for most of the distance." Commute mode data reveals the relative importance of various modes to local commuters. This data pertains only to commuting to work, though. The majority (67 percent) of commuters in Kearny drive alone, whereas 35-38 percent of commuters in East Newark and Harrison drive alone. All three municipalities have at least 10 percent of commuters traveling by public transportation, up to 31 percent in Harrison. East Newark has the highest rate of walking to work (11 percent). Harrison's commuting patterns are most similar to Hudson County overall, which has a very high population density in the east and high public transportation usage. Kearny's commuting patterns are most similar to those of the larger NJTPA Region and New Jersey, where Public Transportation commuting is lower and rates of Driving Alone are higher.

Table 9 - Commute Mode by Municipality, 2022

Commute Mode	East Newark	Harrison	Kearny	Hudson County	NJTPA Region	New Jersey
Drove Alone	38%	35%	67%	35%	63%	65%
Carpool	27%	7%	9%	6%	7%	8%
Public Transportation	11%	31%	13%	34%	11%	9%
Walk	11%	8%	6%	7%	3%	3%
Bike	0%	0%	0%	1%	0%	0%
Taxi/ Motorcycle	2%	4%	1%	2%	2%	2%
Work from Home	12%	15%	4%	16%	14%	13%

6.3 Commute Time

Commute time by municipality is detailed in Table 10 and Figure 22. Commute time data reveals the length of time commuters typically spend in transit to/from their job. This data can be helpful for planning outreach events, as communities with longer commutes may be more likely to attend an event later in the evening or virtually. Harrison has the highest mean travel time at 38.2 minutes. Longer travel times are often correlated with the use of public transportation. Harrison has the highest rate of public transportation commuting in the West Hudson study area. Harrison and Kearny have longer commutes than East Newark. More than 25 percent of commuters in Harrison and Kearny have commutes of at least 45 minutes compared to 20 percent of commuters in East Newark. Additionally, 55 percent of commuters in East Newark have a commute less than 30 minutes compared to 40 percent of commuters in Harrison and 50 percent of commuters in Kearny. The rate of commutes less than 15 minutes is higher in the NJTPA Region and New Jersey than in the West Hudson study area. Commutes for residents of East Newark are shorter than the average commute in Hudson County, NJTPA Region, and New Jersey, while commutes for residents in Harrison are longer than the three comparison areas, and commutes in Kearny are generally similar to the NJTPA Region and New Jersey.

Table 10 - Commute Time by Municipality, 2022

Commute Time	East Newark	Harrison	Kearny	Hudson County	NJTPA Region	New Jersey
Less than 15 Minutes	16%	11%	17%	13%	20%	21%
15-29 Minutes	39%	29%	33%	25%	31%	32%
30-44 Minutes	25%	23%	23%	28%	22%	22%
45-59 Minutes	9%	15%	13%	17%	11%	10%
60+ Minutes	11%	23%	14%	18%	16%	14%
Mean travel time (minutes)	29.8	38.2	32.3	35.7	32.3	31.2

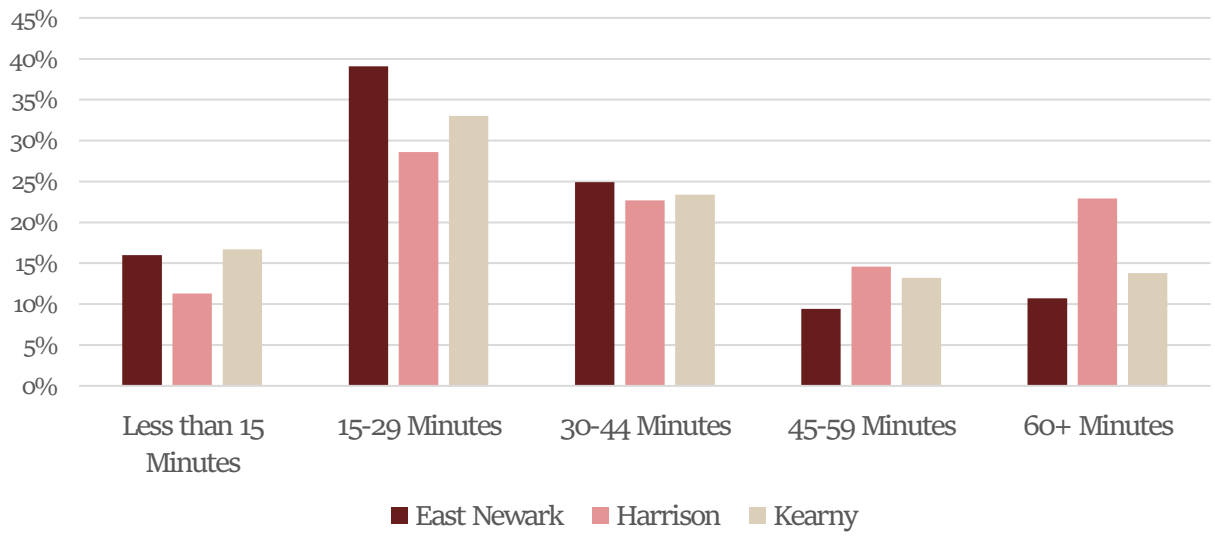

Figure 22 - Average Commute Time by Municipality, 2022

7. Air Quality

Below is a brief review of air quality data concerning the West Hudson study area. Air quality was considered due to the connection between transportation, particularly from gasoline-fueled motor vehicles, and air quality. Based on available data, air quality is considered at a regional level, as air quality specific to the West Hudson study area communities is not available. Air quality has been considered qualitatively during public outreach and while developing recommendations. Roadways with higher volumes emit more air pollutants. Recommendations expected to decrease vehicle miles traveled and/or single-occupant motor vehicle use would also be expected to result in a decline in air pollution.

As per NJTPA's August 2023 Air Quality Conformity Determination, each ozone nonattainment area in the region and PM2.5 maintenance area passes the corresponding budget test. According to the United States Environmental Protection Agency, a nonattainment area is one "that does not meet the national primary or secondary ambient air quality standard." According to the New Jersey Department of Environmental Protection, a maintenance area is an area that has met its attainment date after having previously been a nonattainment area for a pollutant and developed a plan showing how it will be brought into attainment by a set attainment date. Based on the emissions modeling results for all applicable scenario years, the total forecasted emissions of ozone precursors are below the budgets provided in the State Implementation Plans by the New Jersey Department of Environmental Protection. As per an *Air Quality Transportation Conformity in the NJTPA Region*, the number of days per year that ozone concentrations exceeded the ozone standard in the NJTPA region has decreased significantly over the last 30 years, as shown in Figure 23.

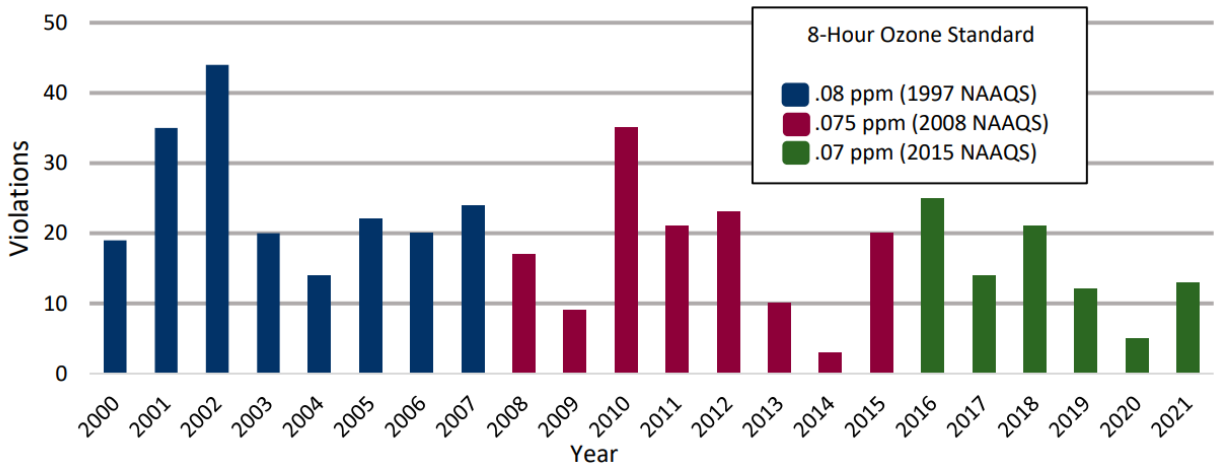

Figure 23 - Annual Violations of the 8-Hour Ozone Standard in New Jersey. Source: NJDEP.

Note: The Figure shows the number of days with ozone violations for the entire state of New Jersey, not only the NJTPA region.

8. Conclusion

An evaluation of existing conditions in the West Hudson study area reveals several key takeaways that establish the West Hudson study area as a distinct and dynamic region. The area is uniquely characterized by:

- Three distinct zones made up of dense residential and commercial land uses in the west, industrial land uses in the south and east, and wetlands/conservation areas in the northeast
- Diverse and active development due to evolving land uses and proactive redevelopment areas
- New industrial, residential, commercial, and transit-oriented development that is fundamentally changing the character of many parts of the study area, including generating new types of trip demand by pedestrians, bicyclists, and scooterists
- Myriad transportation assets that crisscross the study area, including freight and passenger rail, interstates, key regional roadways, and several bridges that provide critical links to Essex County and eastern Hudson County
- Various planned transportation projects, including bridge projects, roadway redesigns, and safety initiatives, that will enhance conditions and support the changing nature of the study area
- Gaps in the transportation network that present opportunities for improvement

These conditions not only define the study area but present real opportunities to improve accessibility and mobility for multimodal roadway users such as pedestrians, bicyclists, scooterists, transit riders, and those in need, particularly populations that may face access and mobility challenges.

Given the complexity, character, and constraints unique to the study area, it is likely that recommendations derived from this study will focus more on repurposing existing assets, leveraging existing projects and planning efforts, and improving network efficiency and operations rather than major infrastructure projects such as new roadways, rail lines, or bridges. The study area is largely built out, and most roadways are constrained as a result. Therefore, roadway capacity enhancements alone will not fulfill transportation demand. Community and stakeholder outreach conducted to date has revealed demand for improved walking and biking facilities and transit enhancements. Multimodal strategies like these will support study area residents, workers, and visitors by providing transportation choice, improving transportation access for residents, mitigating short-distance vehicle trips that could be made by other modes, reducing parking demand, and absorbing trip growth across various modes.

Data collected and summarized herein will be applied to further analyses and eventual recommendation development. Through effective circulation and connectivity recommendations and eventual implementation, the West Hudson study area can improve and maximize the potential of its already extensive network of streets, roads, bridges, and transit.