



# Technical Memorandum: Literature Review

Date: 7/22/2021 (revised 12/15/2021)

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# I. Introduction

An essential element of a successful plan is to understand prior and ongoing initiatives that can provide information, context, and background. This is a necessary step to support sound decision making.

This literature review summarizes key initiatives and recommendations from recent and previous studies. The studies are organized into the following categories:

- Framework Plans are developed at the state or regional level. The literature review identifies goals/objectives of these plans, to which *BIKEPassaicCounty* can potentially contribute. As *BIKEPassaicCounty* advances, it is of value to describe how bicycle planning in Passaic County supports state and regional goals, building support and partnerships with state and regional agencies.
- Passaic County Plans & Studies are developed by Passaic County (with partners such as the NJTPA) as elements of the Passaic County Master Plan. *BIKEPassaicCounty* maintains a focus on bicycle facility planning, yet is able contribute to advancing the goals and objectives of these other elements. Likewise, these prior elements serve as a foundation for *BIKEPassaicCounty*. By building synergy with prior elements, the recommendations of *BIKEPassaicCounty* can be of great value to the County and its residents.
- Local Plans are developed by the 16 municipalities within Passaic County. These plans present an opportunity to integrate local initiatives and bicycle circulation patterns into a plan for County-wide bicycle mobility.
- Location-Specific Plans deal with limited geographic study areas, yet may offer insight into planned mobility improvements that can be integrated with *BIKEPassaicCounty*. (Note: The County is working on road improvements on County Roads throughout the County that will lead to bicycling improvements such as Main Avenue in Passaic, Allwood Road in Clifton, Lakeview Avenue in Paterson, etc., that can be mentioned in this study).
- Design Guides are reference documents that deal with the planning and development of bicycle facilities.



# II. Framework Plans

## A. NJTPA Long Range Transportation Plan 2050

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Date: Draft, July 2021

Contributors: NJTPA

With a theme of “Transportation. People. Opportunity.”, this plan emphasizes a shift from an outmoded focus on transportation as the movement of motor vehicles to transportation as accessibility or “using a variety of modes to give people convenient and affordable access to jobs, education, and other opportunities.” The plan formalizes a regional framework that prioritizes accessibility as a means to reduce barriers, support equity and environmental justice, improve safety, and address aging infrastructure. Plan priorities include safety, accessibility, equity, active transportation, climate change mitigation, and transportation technologies. The plan recognizes needs for increased funding for local projects, support for active transportation, access to transit/TOD, and environmental protection.

Key strategies related to bicycling (p. 63-64) and bicycle planning in Passaic County include:

- **Bicycle networks:** Building out a connected bicycle network enables less experienced cyclists to gain better access to destinations. Installing bike lanes is one way to designate safe space for cyclists. Protected bike lanes offer greater protection for cyclists where curbside space is available.
- **Dedicated trails:** Upgrading existing trails such as the Morris Canal Greenway and exploring new additions, such as the proposed nine-mile Essex-Hudson Greenway from Montclair to Jersey City, and the Northern Valley Greenway from Tenafly to Northvale in Bergen County, would provide even more opportunities for cyclists of all levels to comfortably travel off-road from one destination to another.
- **Pathways to transit:** Safe access to public transit is a key element of an effective regional active transportation network. Investment in more accessible transit infrastructure such as safe walking paths to bus stops and safe bus stop designs also addresses equity issues, since the most frequent transit users are minority and low-income residents.
- **“Calming” streets:** Reducing vehicle speed plays a key role in safety outcomes for pedestrians and bicyclists. If a car traveling 40 MPH strikes a pedestrian, the survival rate is 20 percent, versus a 90 percent survival rate if the vehicle is traveling 20 MPH. Road diets, landscaping and signage are just a few ways to signal to drivers that they are entering zones with higher pedestrian and biking activity

### Appendix A: Active Transportation in the NJTPA Region

This study discusses the current state of walking and biking in the region and offers recommendations to enhance active transportation.

- Defines benefits of active transportation (economic, health, environment, access)



- Describes active transportation patterns in the region: “Four percent of commuters in the NJTPA region travel by foot or bicycle, according to the 2014-2018 American Community Survey (ACS). Walking and biking account for ten percent of non-commute trips, based on the NJTPA and New York Metropolitan Transportation Council (NYMTC) Regional Travel Household survey. Most of these are walking trips, with bicycling accounting for less than 0.5 percent of both commute and non-commute travel.”
- Describes challenges to improving active transportation (need for infrastructure, data limitations, safety)
- Presents strategies for improving active transportation (calming streets, pedestrian facilities, bicycle networks, pathways to transit, ADA, safety, land use/TOD, policy changes)
- Provides recommendations for NJTPA:
  1. Expand active transportation planning
  2. Provide support and technical assistance for design and construction
  3. Create an active transportation plan
  4. Promote education and public participation
  5. Improve regional data.
  6. Expand available funding

## B. Together North Jersey: The Plan. Connection People, Places, and Potential

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Date: 2015

Contributors: Together North Jersey, multi-county steering committee, NJTPA, NJ TRANSIT, NJ OPA, HCDN-NJ, NJ Future, Building One New Jersey, PlanSmart NJ, Bloustein School of Planning, RPA, Sustainability Institute at The College of New Jersey

The TNJ Plan introduced themes that have permeated planning efforts in the North Jersey region in the ensuing years. Efforts to update the 2015 Plan are currently underway. The Plan includes 5 Priority Goals and 15 Focus Area/Strategies.

Goals and Focus Areas relevant to bicycle network planning in Passaic County include:

Goals:

- Grow a strong and inclusive regional economy
- Create great places
- Increase access to opportunity
- Protect the environment

Focus Areas:

- 3.1: Use our region's transportation infrastructure as a framework for future investment.
- 3.3: Strengthen tourism by promoting North Jersey's arts, cultural, recreation, historic and natural amenities at the regional scale.
- 6.1: Design places that meet the diverse needs of people in all age groups.
- 6.2: Create a physical vision for new development based on an understanding of the unique characteristics that define each place, including historic context.



- 6.3: Establish programming and management practices to create active, actively-managed spaces.
- 6.4: Locate development in areas that are walkable, bikeable, and accessible by public transit.
- 6.5: Invest strategically in catalyst spaces, rather than standalone building projects.
- 7.1 Maintain transportation infrastructure in a state of good repair.
- 7.2 Adopt and implement "Complete Streets" policies.
- 7.7 Use technology to improve transportation operations.
- 10.2 Adapt communities to be resilient to extreme weather events and the impacts of climate change.
- 10.4 Use green infrastructure to mitigate the impacts of extreme weather and climate change.
- 12.1 Integrate public health considerations in all aspects of planning and policy-making.
- 12.2 Increase access to affordable healthy foods and maximize access to locally produced fresh food.
- 12.3 Increase access to quality healthcare facilities, especially for medically underserved communities.
- 12.5 Create safe and healthy buildings, neighborhoods and communities through planning and design.
- 12.7 Improve conditions for communities that are disproportionately burdened by air pollution.
- 13.1 Work with landowners to stewardship of privately owned natural lands and green space.
- 13.3 Improve stewardship of public parks, open space and natural lands.

## C. New Jersey Bicycle and Pedestrian Master Plan

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Date: 2016

Contributors: NJDOT Office of Bicycle and Pedestrian Programs

The BPMP describes a Vision for active transportation in New Jersey as:

"New Jersey is a place where people of all ages and abilities are able to bicycle and walk. Those who live, work, or visit are able to conveniently walk and bicycle with confidence, a sense of security in every community, and with the respect of all modes. Both activities are a routine part of the transportation and recreation systems."

The BPMP identifies 5 goals with supporting strategies for implementation. Those relevant to bicycle network planning in Passaic County include:

### Goal 1: Improve Safety

- Prioritize the most vulnerable (disadvantaged/high-risk groups — youth, seniors, low-income, disabled and minority populations) of vulnerable user needs in projects and decision-making.

### Goal 2: Enhance Accessibility, Mobility, and Connectivity

- Maximize Complete Streets Implementation through education, training, funding support, tools and best practices.
- Develop and fund pilot projects in communities that have adopted Complete Streets implementation plans.
- Test and evaluate innovative concepts, new practices and technological advances.
- Improve and expand the transportation infrastructure for bicyclists and pedestrians



- Adopt NACTO Urban Bikeway Design Guide, Urban Street Design Guide, and Transit Street Design Guide at the state, MPO, county, and local levels.
- Identify and complete trail system gaps.
- Improve access to transit.
- Improve maintenance of facilities to ensure safety of users.
- Support construction of bicycle facilities to improve connectivity and mobility of non-motorized transportation networks to attract the widest range of potential users.
- Train and coordinate municipal engineers for funding and prioritization.
- Collaborate with school boards to support and coordinate SRTS efforts.
- Conduct training via a coordinated, geographically informed strategy to bring together local, county, and NJDOT liaisons on resources [developed by NJDOT and others]

#### Goal 3: Achieve Healthy, Equitable, Sustainable Communities

- Continue to educate the public on the benefits of and safe practices for walking and bicycling.
- Collaborate with health, enforcement, business, and environmental partners
- Collaborate with equity and environmental justice partners
- Collaborate with community design and placemaking partners

#### Goal 4: Foster a Culture Shift

- Increase public awareness of the benefits of bicycling and walking.
- Address emerging technologies, such as electric bikes and bike share.

## D. Highlands Regional Master Plan

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Date: 2008

Contributors: Highlands Planning Council

The northern portion of Passaic County falls within the Highlands Region, as governed by the Highlands Water Protection and Planning Act:

“The Highlands Water Protection and Planning Act (Highlands Act, P.L. 2004, c. 120), enacted on August 10, 2004, includes findings of the Legislature “that the New Jersey Highlands is an essential source of drinking water . . . for one-half of the State’s population . . . that . . . [it] contains other exceptional natural resources such as clean air, contiguous forest lands, wetlands, pristine watersheds, and habitat for fauna and flora, [and that it] includes many sites of historic significance, and provides abundant recreational opportunities for the citizens of the State” (p. 11)

Of the portion of Passaic County that is located within the Highlands Region, the majority is classified as Highlands Preservation Area:

“The Preservation Area consists of nearly 415,000 acres located in 52 municipalities within the seven Highlands Counties. The lands within the Preservation Area were subject to the immediately effective standards in the Highlands Act and are governed by rules and regulations subsequently adopted by the New Jersey Department of Environmental Protection (NJDEP). The Highlands Act



established detailed and stringent standards for the NJDEP rules to protect the Preservation Area resources, with some provision for relief for redevelopment, brownfields development, and development based on the issuance of permit with waiver or qualification for one of the 17 exemptions." (pp.11-12)

Relevant to bicycle network planning in Passaic County, the Highlands Regional Master Plan includes the following components:

Smart Growth Component – Consider public investment priorities, infrastructure investments, economic development, revitalization, housing, transportation, energy resources, waste management, recycling, brownfields, and design such as mixed-use, compact design, and transit villages

Transportation Component – Promote a sound, balanced transportation system

"The Highlands Council does not issue permits, but is statutorily required to review certain proposed projects throughout the Highlands Region for consistency with the Highlands Act and Highlands Regional Master Plan (RMP). The Highlands Council shares jurisdiction with the New Jersey Department of Environmental Protection, which is the permitting agency in the Highlands. Please refer to the links below for additional guidance." (<https://www.nj.gov/njhighlands/projectreview/>)

**BIKEPassaicCounty** should produce recommendations that conform to the Highlands Regional Master Plan when planning within the Highlands Region. This means that a sensitive/conservative approach may be advisable when considering new trail or off-road bicycle facilities in the region. It would also be reasonable to contact the New Jersey Highlands Council for review/input on any **BIKEPassaicCounty** recommendations within the Highlands Region as a component of network/concept development.

## E. New Jersey Trails Plan Update

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Date: 2009

Contributors: NJDEP, NJDOT, NJ Trails Council

The NJ Trails Plan Update establishes new conceptual links among significant New Jersey trail facilities and includes important planning considerations, identifying the follow links and broadening the definition of trails: to include Trails *and* Transportation

- Trails and Economic Development
- Trails and Greenways
- Trails and Open Space Preservation
- Trails and Health
- Demographics
- Sprawl development
- Trail user types
- Trails accessibility

Trail definition: "Trails continue to be popular for outdoor recreation, but many are also important for transportation (as they originally were). Some trails are created to commemorate, preserve and provide access to historic places or unique natural landscapes, providing a venue for education and interpretation. Many trails are located in rural or bucolic settings, but an increasing number are found in urban and suburban areas where they are sometimes referred to as "community pathways." Today,



trails can also be located within public rights of way and can include “on-road” elements, such as a bicycle touring route or a trail connector that completes a network of trails. Trails are being used by an expanding variety of user types. In addition to land trails, there are a fast-growing number of water trails or “blueways”: streams, rivers, canals and waterfronts for boating.”

Relevant to bicycle facility planning in Passaic County, the Trails Plan Update identified the following themes, goals, and recommendations:

1. Trails for all
  - Trail networks formed by extending and connecting existing trails
  - An increased number of accessible trails for the sensory or mobility impaired throughout the state
  - Vigorously pursue the acquisition and development of major multiple use trails on their own rights of way, especially on rail rights of way (includes rails with trails)
  - Explore opportunities to provide sustainable trail access on publicly owned preserved open space
2. Trails for Community Connections
  - Community pathway networks within New Jersey’s population centers that provide a walking trail within 10 minutes of every resident and non-motorized connection to neighborhoods, schools, workplaces and public destinations
  - An extensive network of connecting trails throughout New Jersey for safe and easy movement between communities
  - An extensive network of greenway trails connecting parks and natural areas
  - Provide bicycle and walking trails connecting residential areas with parks, major trails and trails systems. Capitalize on the transportation value of trails, using them to connect to non-park destinations.
  - Include trails and pedestrian facilities in development, redevelopment and transit proposals.
6. Trail Information, Communication, and Promotion
  - Widely available maps and information on trails through a variety of sources
  - An informed public, including decision-makers, regarding trail benefits and the role of trails in supporting active, healthy lifestyles
  - Trails and greenways promoted as key connections between parklands, rivers, historic sites and other natural resources
7. Trails Planning and Development
  - Cooperative trails planning and decision making within and among all levels of government
  - Trails built into land use laws so that developers are required to plan for trails as part of their site plan



## F. Morris Canal Greenway Corridor Study

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Date: 2018

Contributors: NJTPA, Morris Canal Working Group, Technical Advisory Committee (incl. Passaic County Planning)

This study:

- analyzes the path of the historic Morris Canal,
- identifies a continuous greenway for walking and bicycling that follows the original route as closely as possible,
- identifies potential projects for short- to medium- and long-term implementation,
- outlines branding and marketing activities to build visibility for the Morris Canal Greenway, presents design guidelines to unify the greenway, and
- recommends an organizational structure that coordinates implementation, helps to maintain the greenway, and promotes its benefits.

*BIKE Passaic County* should note the study area alignment in mapping and analysis, accounting for any sections of the canal that have been constructed or for which planning/design has been advanced within Passaic County.

It is likely that the routing decision made in this 2018 study, with stakeholders from the entire length of the Morris Canal, supersedes routing decisions made in the 2011 Morris Canal Greenway Feasibility Study in Passaic County only (ANJEC funded). The 2011 study was used a resource in the 2018 study.



# III. Passaic County Plans and Studies

## A. Moving Passaic County: Transportation Element of the Passaic County Master Plan

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Date: 2012

Contributors: Passaic County Department of Planning and Economic Development, NJTPA

The Transportation Element addresses all aspects of the transportation system including pedestrians, bicyclists, motor vehicles, public transportation, waterway accessibility, air travel access, and freight movement. This 2012 plan proposes important key themes – Complete Streets; Bicycle, Pedestrian and River Access – and established a roadway typology, Complete Streets design guidance, and introduced the concept of green streets.

Key components relevant to *BIKEPassaicCounty* include:

- Goal #4: Work toward the creation of “Complete Streets” so that our roadways better serve all users, including pedestrians, bicyclists, transit users, senior citizens, and persons with disabilities.
- Roadway Classification (Street) Typology:
  - Regional Street Definition: a major travel route that handles the highest volume of traffic on County roadways, supporting all modes of transportation
  - Highlands regional Street Definition: As above, but also characterized by single-use, low-intensity development that transitions between residential, commercial and rural settings. In many cases, developments are separated by large natural areas and winding roadways. They are major travel routes that handle the most diverse traffic modes.
  - Downtown Street
  - Community Street
  - Neighborhood Street
  - Green Street
- Key Issues: Safety, Public Health, Access, Connectivity
  - Can be updated in *BIKEPassaicCounty* to conform to NJTPA Plan 2050
- Bicycle/pedestrian Priority Corridors
  - Maps 4.1 and 4.2 can serve as baseline data for *BIKEPassaicCounty*
- Identifies wayfinding and dedicated bicycle facilities on County roadways as prevalent needs for access and connectivity
- Identifies river access as a need and opportunity
- Bicycle access to Transit
- Bicycle relationship to Scenic and Historic Byways (Maps 8.1, 8.2, and 8.3 can serve as baseline data for *BIKEPassaicCounty*)
  - “Scenic and Historic Byways are defined as any roads, rivers, trails, railways or historic routes that hold an intrinsic historic or scenic value that identifies (or was vital) in the



development of Passaic County. The intrinsic value of the byway can be characterized by the presence of such features as traditional homesteads, viewsheds, architecturally significant buildings, bridges, stone walls and other features throughout Passaic County." (p.80)

- Appendix A – Complete Streets Guidelines
  - Provides a thorough reflection on qualities that establish the Roadway Classification Typology
  - Guidance is high level and descriptive, rather than prescriptive of solutions for given roadways (opportunity for *BIKEPassaicCounty*)
  - Guidance predates many of the design guides that can be applied in 2021 (see list of design guides in this literature review)

## B. Heritage Tourism Element of the Passaic County Master Plan

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Date: 2013

Contributors: Passaic County Department of Planning and Economic Development, Passaic County History and Tourism Board, Passaic County Heritage Tourism Board Technical Advisory Committee

The Heritage Tourism Element builds from the Transportation Element (2012) to address both transportation and tourism issues and formalizing an implementation plan for the Scenic and Historic Byways Program described in the Transportation Element. "The outcomes and benefits of the Passaic County Scenic and Historic Byways Program are diverse and cover a wide range of objectives:

- Preservation of the County's historic sites, scenic vistas and open space,
- A unified interpretive story of Passaic County's history and its role in historical movements and events of regional and national significance,
- Improved access to visitor destinations by tourists as well as residents of all ages and abilities,
- Economic vitality from increased tourism, and
- Transportation improvements that support the Scenic and Historic Byway objectives,
- Encourage the use of non-motorized travel,
- Address safety throughout the Byways network." (p.1)

The Heritage Tourism Element includes a GIS inventory of Major Attractions, the Scenic Byway Network, and trails (maps on page 14 and 15) that should be incorporated as baseline data in *BIKEPassaicCounty*.



## C. Sustainability Element of the Passaic County Master Plan

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Date: 2013

Contributors: Passaic County Department of Planning and Economic Development, Sustainability Working Group, Passaic County Heritage Tourism Board Technical Advisory Committee

The Sustainability Element "...outlin[es] a comprehensive action plan with distinct goals and strategies to achieve a sustainable future for Passaic County. This plan represents a commitment to improving public health and the quality of life for all residents, visitors and businesses in our community." (p.1)

The plan defines sustainability as "a systematic approach that supports economic responsibility, environmental stewardship and a thriving community to achieve and encourage the highest level of efficiency and conservation of resources in local government operations" (p. 5)

Key components relevant to *BIKEPassaicCounty* include:

- Vision: "To be a sustainable local government means that the Passaic County governing body considers the direct and indirect fiscal, social and environmental impacts of their decisions, resulting in policies that reduce waste to promote efficiency and effectiveness across all three areas. In carrying out the policies enacted by the governing body, Passaic County staff equally considers the fiscal, social and environmental impacts of their actions and operations. The Passaic County Board of Chosen Freeholders strive to provide effective services that fulfill the needs of Passaic County residents today, without compromising the ability of future generations of Passaic County residents to meet and exceed our quality of life. The goals and strategies outlined in this plan were thoughtfully designed to guide Passaic County toward our vision for a sustainable future."
- Green Infrastructure: Design and maintain a strategically planned green infrastructure network composed of natural lands, working landscapes and capital projects that maximize infrastructure efficiency and mimic natural ecosystem functions to benefit human health and quality of life for Passaic County residents. Green Infrastructure Design Guidelines are included in *Moving Passaic County* (2012).
- Design for People: Create human-scale built environments that provide comfort, safety, accessibility, and are aesthetically pleasing to Passaic County residents and visitors.
- Compact & Complete Communities: Create complete communities with a range of services that allow for amenities and transportation options; afford equitable access to the ingredients of what makes for an economically and socially viable neighborhood; and reduce the community's carbon footprint.
- Public Spaces: Invest in, program and optimally maintain diverse and interconnected public spaces that feature equitable, convenient and comfortable access, encourage safe and healthy behaviors, minimize hazards, are culturally appropriate, and attract and serve all populations.
- Transportation & Mobility: Reduce vehicle miles traveled (VMT) and associated greenhouse gas and air pollutant emissions by enhancing the availability of, and access to, diverse transportation choices, including non-motorized modes and transit. Create safe, affordable mobility and physical activity opportunities for all; provide and optimally maintain infrastructure that efficiently and affordably moves people and goods locally and regionally. Design County roads in accordance with the Complete Streets Design Guidelines in *Moving Passaic County* (2012).



- Code Barriers: Guidelines, Requirements and Resolutions: Ensure that County planning and engineering guidelines, requirements and resolutions consider community and site context, improve ecological integrity, are based on life-cycle costing, foster social equity and reward innovation; serve as a resource to municipal land-use boards to overcome code barriers.
- Public Engagement in Planning and Design: Provide regular, meaningful and equitable opportunities for Passaic County citizens to shape the future of our communities.
- Fuel Efficiency and Transportation Infrastructure: Support low-carbon and high resource-efficiency transportation options through the development of supporting infrastructure, fuel purchasing and local fuel production; facilitate improvements to the public transportation system with NJ Transit and transit management agencies; encourage non-motorized transportation infrastructure and safety improvements for bicyclists and pedestrians.
- Food Access and Nutrition throughout Food Cycle: Throughout the food cycle, ensure community food security by improving the availability, accessibility and affordability of healthy food at all times for every Passaic County resident; understand and strengthen the Passaic County Food System.
- Active Living: Create opportunities for and promote the integration of recreation and physical activity into County residents' daily routines and the built environment.
- Infrastructure and Capital Projects: Equitably distribute infrastructure, amenities and services to foster community health and create communities of opportunity.
- Environmental Justice: Develop and enforce government policies and practices that not only contribute to reducing polluted and toxic environments for all residents, but also lead to an equitable distribution of the positive and negative environmental effects on the health and well-being of communities.

#### D. Passaic County Parks, Recreation and Open Space Master Plan

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Date: 2014

Contributors: Passaic County Department of Planning and Economic Development, Open Space Trust Fund Advisory Committee

The Parks, Recreation, and Open Space Master Plan "...provides the foundation for the management, maintenance, improvement, and expansion" of the Passaic County Parks System. Although the plan focuses on park issues, it also provides recommendations on accessibility and linkages (mobility) as functional assets of a successful park system, and goals relevant to *BIKEPassaicCounty*.

Key components relevant to *BIKEPassaicCounty* include:

- Vision: "Passaic County envisions a public park system that features a comprehensive and integrated network of park, recreation and open space areas, which are alive with energy, attractive, well maintained, and provide a high---**quality experience for any visitor** or user of a county park and recreation program.  
The park system is safe and user---**friendly, providing new and restored facilities set in significant** historic and scenic landscapes, and in open spaces and recreation areas which meet the dynamic needs of the county's diverse residents.



The parks attract Passaic County residents and visitors from the metropolitan area to enjoy outstanding public recreation and open space areas, which protect the environment, strengthen the county's diverse communities, and promote healthy living."

- Goals/Objectives
  - 1.a: Facilitate access for all county residents to the Passaic County Park System.
  - 2: Increase the accessibility of the Passaic County Park System.
  - 2.c: Develop linkages between key areas of the Passaic County Park System, and partner to link the county park, recreation and open space areas with federal, state and municipal park and open space systems.
  - 2.d: Encourage municipalities to develop bicycle and pedestrian facilities that link residential areas with park, recreation and open space areas.
  - 2.e: Provide appropriate bicycle facilities, such as secure bike parking, in appropriate areas of the Passaic County Park System.

## E. Green Stormwater Infrastructure Element of the Passaic County Master Plan

Date: 2018

Contributors: Passaic County Department of Planning and Economic Development, Open Space Trust Fund Advisory Committee, NJTPA

The Green Stormwater Infrastructure Element provides recommendations and technical guidance "to enable the County to implement a comprehensive strategy for stormwater management based on widespread application of Green Stormwater Infrastructure (GSI) and Low Impact Development (LID) strategies."

- Technical guidance includes a Stormwater Management Guidance Manual and Green Streets Guidelines.
- Site-Scale Implementation Strategy: "Develop a list of potential pilot projects; include community stakeholders to ensure that projects address community priorities and provide improvements for underrepresented populations." ... relates to Concept Development task in *BIKEPassaicCounty*
- Appendix A2 – Passaic County Green Streets Guidelines - Provides more detailed information about siting and design considerations for stormwater Best Management Practices (BMPs), as well as applicable practices and diagrammatic representation (plans and cross sections) of potential BMP locations in relation to the County's road typologies and street zones (building on the 2012 Transportation Element of the Passaic County Master Plan)

In Concept Development, *BIKEPassaicCounty* can make reference to this plan and appendix for specific concepts to help envision how a County roadway might be adapted to include Green Street BMPs in addition to bicycle facilities.



## F. Highlands Element of the Passaic County Master

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Date: 2019

Contributors: Passaic County Planning Department

See review of Highlands Regional Master Plan under Framework Plans above.

“Where development applications filed with the County Planning Board are subject to municipal review and approval in a municipality for which the Highlands Council has approved Plan Conformance, the County Planning Board will rely upon the municipal decision. Where development applications to the County Planning Board are subject to municipal review and approval in a municipality for which the Highlands Council has not approved Plan Conformance, the County Planning Board will rely solely upon review by the Highlands Council.” (p. 7)

*BIKEPassaicCounty* should produce recommendations that conform to the Highlands Regional Master Plan when planning within the Highlands Region. This means that a sensitive/conservative approach may be advisable when considering new trail or off-road bicycle facilities in the region. The New Jersey Highlands Council will be invited to be on SAC and there may be a separate meeting with the Council to discuss recommendations.



## IV. Local Plans

Municipal plans, such as the Municipal Master Plan, Transportation Element, or Circulation Element were reviewed in the context of *BIKEPassaicCounty*. The following list provides key bicycle mobility recommendations, as applicable, from the 16 municipalities in Passaic County. Municipalities with Complete Streets policies (ascertained from <http://njbikeped.org/complete-streets-2/>) are noted. Contact with municipal representatives may be prudent discussion of recommendations/routing in *BIKEPassaicCounty*.

Municipality	Key Bicycle Recommendations in Municipal Plans
Bloomingdale	<ul style="list-style-type: none"> <li>• Complete Streets Policy 07/17/2018: Goal b: "Provide safe and accessible accommodations for existing and future pedestrian, bicycle, vehicle and transit facilities on all roadways in the Borough."</li> <li>• Bicycle facilities/circulation are not addressed in the municipal master plan/amendments.</li> </ul>
Clifton	<ul style="list-style-type: none"> <li>• 2003 Goal 8: "To encourage the location and design of transportation routes which will promote the free flow of traffic while discouraging the location of such facilities and routes which would result in congestion, blight or unsafe conditions."</li> <li>• 2008 Policy Statement 18 : " To encourage the location and design of transportation routes which will promote the free flow of traffic while discouraging the location of such facilities and routes which would result in congestion, blight or unsafe conditions."</li> <li>• 2008, p. 23: "A Circulation Plan Element should be prepared for the City showing the location and types of a facilities for all modes of transportation required for the efficient movement of people and goods into, about and through Clifton, taking into account the functional highway classification of the Federal Highway Administration and the type, locations, conditions and availability of existing and proposed transportation facilities, including air, water, road and rail."</li> </ul>
Haledon	<ul style="list-style-type: none"> <li>• Objective Six – "The County's plan for improving major traffic intersections should be implemented.</li> <li>• "The intersections, geometry and elevations of Belmont Avenue, Haledon Avenue, and Church Street are unsafe and inadequate. The traffic lights are outdated and do not work properly on the County Roads. The traffic flow into and from the Borough can be resolved through coordination with the County, easements for transition lanes, and potential eminent domain as required.</li> <li>• For BIKEPassaicCounty, a review of any existing plans for the above mentioned intersections should be conducted, if recommendations from the plan are applicable to those areas.</li> </ul>



Municipality	Key Bicycle Recommendations in Municipal Plans
Hawthorne	<ul style="list-style-type: none"> <li>2011 Goal 9 (p. 39): "Goal 9: To address traffic and pedestrian circulation issues on a local and regional scale. Policy: The Borough recognizes that the existing circulation system incorporates some deficiencies that serve to impede traffic flow. These include the fact that four major roadways traverse Hawthorne bringing high volumes of traffic to local roadways such as Lafayette Avenue, Goffle Road and Wagaraw Road. The intent of this plan is to improve the flow and safety of traffic within the Borough for vehicles, bicyclists, and pedestrians. However, the Borough also notes that substantive road widening that would create additional travel lanes along entire lengths of roadway would have a negative impact on the community's developed character."</li> </ul>
Little Falls	<ul style="list-style-type: none"> <li>Complete Streets Policy 10/17/2016: "The Township of Little Falls Complete Streets Policy promotes a comprehensive, integrated, connected multimodal transportation network by providing connections to bicycling and walking trip generators such as employment, education, residential, recreational and public facilities, as well as retail and transit centers."</li> <li>Complete Streets Action Plan item B: "Encourage and facilitate complete street improvements on roadways owned and maintained by the County of Passaic."</li> <li>2013 Updated Comprehensive Goals, #5 (p.29): Encourage the development of both active and passive recreation opportunities for all age groups, interest and abilities in the community, while maintaining sensitivity to environmental and cultural resources"</li> <li>2013 Update Comprehensive Objectives for Circulation, #1 (p.32): "Create pedestrian and bike connections within the Township between and among residential neighborhoods, community resources, commercial areas and transit facilities."</li> <li>2013 Update Comprehensive Objectives for Economic Development, #3 (p.34) "Transform Little Falls downtown into a pedestrian-friendly, attractive "main street" environment with diverse high-quality retail stores at the ground level, particularly along the streetfront, that is accessible to residents by car, on foot or by bicycle.</li> <li>2013 General Recommendation for Traffic, Circulation, and Safety (p. 40): "Support the goal of becoming a sustainable community, where residents can walk safely or bicycle to shopping centers, recreation areas and schools. Access to public transit and a network of pedestrian walkways and bicycle trails should be established."</li> <li>Mention of Morris Canal Bikeway phase III and IV completion</li> </ul>
North Haledon	<ul style="list-style-type: none"> <li>Complete Streets Policy 05/17/2017</li> <li>2011 Reexamination Report notes that there have been investments made in circulation improvements, mostly sidewalk facilities for access to schools. The report recommends developing a separate Circulation Element (p.44)</li> <li>Belmont Avenue Redevelopment Plan (2014) notes objectives to implement Complete Streets, drawing upon guidance from the Passaic County Transportation Element. This plan also shows depiction of bicycle lanes on Belmont Avenue, though notes a 3' width, which does not meet standards.</li> </ul>



Municipality	Key Bicycle Recommendations in Municipal Plans
Passaic	<ul style="list-style-type: none"> <li>Main Avenue Redevelopment Plan (2021) Section 4.3 provide standards for bicycle parking. Section 4.4 Traffic Impact study notes critical role of multi-modal circulation in the area.</li> <li>City of Passaic Master Plan (2013) notes the need to develop a Circulation Element. Further notes "Total reconstruction of city streets as opposed to merely resurfacing, when possible" (p. 71).</li> </ul>
Paterson	<ul style="list-style-type: none"> <li>The City of Paterson and Passaic County are developing Paterson's first Bicycle Plan. Based on community outreach and an understanding of activity centers, travel patterns, and crash history, the Plan will propose an interconnected and accessible bicycle network. The Baker/SGB team can summarize opportunities for synergy with BIKEPassaicCounty when needed.</li> </ul>
Pompton Lakes	<ul style="list-style-type: none"> <li>Complete Streets Policy 01/23/2019 Goal #1: "Create a comprehensive, integrated, connected multi-modal network by facilitating connections to bicycling and walking trip generators such as employment, education, residential, recreational, and public facilities, as well as retail and transit centers."</li> <li>2017 Master Plan Reexamination Goal for Circulation (p. 5), "Establish bicycle routes throughout the municipality, connecting open space, active recreation areas and a potential river walk along the Wanaque River." Goal for Parks and Recreation (p. 7), "Promote greenways and pathways for pedestrian and bicycle recreation."</li> <li>Pompton Lakes has a <a href="#">Complete Streets plan</a> developed through NJDOT by Michael Baker. The Baker team can summarize the CS Plan when needed.</li> <li>A recent study <a href="#">Creating Great Places to Age: Aging-Friendly Land Use Assessment</a> (September 2020) by NJ Future has transportation recommendations, such as bike route connectivity to parks, green spaces, and community destinations.</li> </ul>
Prospect Park	<ul style="list-style-type: none"> <li>2009 Master Plan Reexamination Report has no specific recommendations for bicycling.</li> </ul>
Ringwood	<ul style="list-style-type: none"> <li>2009 Bike and Pedestrian Plan identifies potential on- and off- circulation improvements "to improve or provide neighborhood connections for residents to schools and businesses as well as opportunities to experience Ringwood's local attractions, to not only increase circulation throughout the Borough but to also stimulate the local economy through foot traffic by residents and visitors alike." NV5 can provide mapping from 2009 if needed.</li> <li>2012 Master Plan Reexamination Report Objective for Transportation: "To establish transportation policies and programs that improve connections among housing, employment and commercial uses, including provisions for vehicular and pedestrian travel and bicycle paths." Objective for Economic Development: "To promote the redesign of existing commercial sites to provide a more efficient land use pattern through such approaches as reduced curb cuts, interconnecting driveways, improved pedestrian and bicycle linkages and enhanced landscaping and aesthetics."</li> </ul>
Totowa	<ul style="list-style-type: none"> <li>2016 Master Plan Reexamination Report has no specific recommendations for bicycling.</li> </ul>



Municipality	Key Bicycle Recommendations in Municipal Plans
Wanaque	<ul style="list-style-type: none"> <li>• 2010 Master Plan Reexamination has no specific recommendations for bicycling.</li> <li>• 2002 Open Space &amp; Recreation Plan notes, "opportunity for creation of linear recreation and open space facilities such as trails, bicycle paths and green ways which link existing recreation and open space sites in an integrated system" (p. 7)</li> <li>• Passaic County is currently working on Highlands Rail Trail Project in Wanaque (should be added to BIKEPassaicCounty Mapping)</li> </ul>
Wayne	<ul style="list-style-type: none"> <li>• 2020 Master Plan Re-Examination Report: "Pursue programs with NJDOT and NJ Transit to provide alternative forms of transportation, including but not limited to, bicycle trails, circulator bus service, and additional park and ride lots. The County has implemented multiple on-street bike paths on County roads. Additionally, a new rails-to-trails project is being constructed along the former right-of-way of the Erie Railroad from the Mountainview neighborhood into Pequannock Township" (This is the NYS&amp;W Trail, designed by NV5).</li> <li>• Mention of Highlands Rail Trail and Morris Canal Greenway in (<a href="https://www.tapinto.net/towns/wayne/sections/green/articles/public-hearing-set-for-proposed-4-8-mile-bike-path-between-pequannock-and-wayne">https://www.tapinto.net/towns/wayne/sections/green/articles/public-hearing-set-for-proposed-4-8-mile-bike-path-between-pequannock-and-wayne</a>)</li> </ul>
West Milford	<ul style="list-style-type: none"> <li>• 2003 Open Space Plan: "One of the goals of the Open Space Plan is to develop a framework for an interconnected system of open space and recreational areas. The connections in some cases will simply be in the form of natural linkages such as streams, wetlands, and forested areas (see Trails map). In other instances, however, definite physical connections capable of being traversed on foot, on horseback or by bicycle will be more desirable. These connectors or trails already exist in many areas throughout the Township. Some of the trails are old logging roads and as such were previously used for purposes other than hiking or horseback riding. Other trails, such as the Appalachian Trail, which traverse the northern portion of the Township have always existed primarily for recreational purposes. (p. 33).</li> <li>• The Open Space Plan includes maps of existing and proposed trails.</li> <li>• Note West Milford includes the Jeremy Glick Trail – "Jeremy Glick became a national hero when he was among the passengers aboard United Airlines Flight 93 who stormed the cockpit in an attempt to wrest the plane from terrorists who had pointed it toward Washington, D.C."</li> </ul>
Woodland Park	<ul style="list-style-type: none"> <li>• 2012 Master Plan, Circulation Plan Element notes that the Borough should seek to "Investigate viable east-west options for bicycle and pedestrian linkages to connect the upland areas with the lowland areas, to provide upland residents access to commercial services and the lowland areas access to the County parks and recreation; Analyze streets for viability of adding designated bicycle lanes to promote connections not only in the Borough, but linkages to other communities and mass transit."</li> <li>• The Element also identifies Morris Canal Greenway, Riverwalk along the Passaic River, Connection between Rifle Camp Park and Garrett Mountain Park, and Wayfinding/Marketing as priorities.</li> </ul>



# V. Location-Specific Plans

## A. Peckman Preserve Study, Passaic County Environmental Sanctuary

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Date: 2010

Contributors: Passaic County

This study provides conceptual landscape improvements to the Peckman Preserve (12 acres) in Little Falls, providing an integrated perspective of the natural, historical, cultural and social values that are relevant to the Preserve and Passaic County.

As a key component of connectivity, the study proposes a footbridge at the south end of the Preserve, across the Peckman River, connecting to a section of the Morris Canal Greenway.

*BIKEPassaicCounty* should note this proposed connection in mapping and analysis (unless it is superseded by subsequent planning of the Morris Canal Greenway).

## B. Great Falls Circulation Study

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Date: 2016

Contributors: Passaic County, NJTPA

The Great Falls Circulation Study advances a five-part Gateway Vision Plan of multimodal transportation and placemaking improvements. The study area is a roughly 2-square-mile area around Great Falls National Historical Park in Paterson.

*BIKEPassaicCounty* should note the following in mapping and analysis:

- Proposed reconfiguration of 4-lane Spruce Street bridge over Great Falls NHP as a 3-lane road diet with enhanced ped accommodations; currently under construction
- Proposed two-way conversion of Cianci and Mill Streets
- Proposed intersection improvements at Memorial Drive at West Broadway, NJ 19/Ward Street at Marshall Street, Cianci Street at Passaic Street

## C. Highlands Rail Trail Feasibility Study

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Date: 2017



Contributors: Passaic County, Boroughs of Borough of Bloomingdale, Ringwood, Wanaque, and Pompton Lakes, Township of West Milford

"The purpose of this feasibility study is to evaluate the creation of the Highlands Rail Trail, a bicycle and pedestrian friendly pathway. The historic alignment of the New York and Greenwood Lake Railway, identified as a priority bicycle and pedestrian corridor in the County's Transportation Element of the Master Plan, will provide the foundation for the alignment of the proposed trail. The Highlands Rail Trail was identified in the County's Heritage Tourism Element of the Master Plan as an opportunity to "link bicyclists and pedestrians to businesses, civic uses and recreational opportunities along the constrained Ringwood Avenue corridor, and provide a link between communities in northern and southern Passaic County." The trail will utilize interpretive elements of the historic railroad and the scenic beauty along the corridor to create a regional draw for tourism and a source of local pride for Passaic County."

The study provides detail on the potential trail alignment/route, design guidelines, and implementation steps.

*BIKEPassaicCounty* should note the study area alignment in mapping and analysis.

#### D. Paterson-Newark Transit Market Study

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Date: 2020

Contributors: Passaic County, Essex County, NJTPA

This study "confirms the viability and market potential of a high-quality transit connection between Paterson and Newark. It does not provide detailed technical study of the many components of such a project."

The study notes that "bicycle/pedestrian trails and greenway compatibility" are an outstanding technical detail to be evaluated in future study.

*BIKEPassaicCounty* should note the study area corridor in mapping and analysis.



# VI. Design Guides

The following list of Design Guides, as a starting point, will be consulted and cited in the development of components of *BIKEPassaicCounty*, including the Pattern Book, network, and concepts.

## NJDOT

1. New Jersey Complete Streets Design Guide (NJDOT)
2. New Jersey School Zone Design Guide (NJDOT)

## U.S Access Board

1. Proposed Accessibility Guidelines for Pedestrian Facilities in the Public Right-of-Way (PROWAG)
2. Accessibility Guidelines for Pedestrian Facilities in the Public Right-of-Way; Shared Use Paths
3. A Summary of Accessibility Standards for Federal Outdoor Developed Areas

## NACTO

1. Urban Street Design Guide
2. Don't Give Up at the Intersection
3. Urban Bikeway Design Guide
4. Transit Street Design Guide
5. Urban Street Stormwater Guide

## AASHTO

Guide for the Development of Bicycle Facilities, Fourth Edition

## FHWA

1. Manual on Uniform Traffic Control Devices, (MUTCD)
2. Small Town and Rural Multimodal Networks
3. Separated Bike Lane Planning and Design Guide



## VII. Conclusion

The objective of this Literature Review has been to establish a baseline of information relevant to bicycle network and facility planning in Passaic County and to help inform concurrent and future steps in the planning process. The following points provide a synopsis of findings:

- The Framework Plans listed in Section II present high-level goals related to either bicycle, pedestrian, and trail planning, or regional approaches to land use/development and transportation planning, in general. *BIKEPassaicCounty* will establish a bicycle facility network map, priority bikeways, and concept level plans for a select number of routes, providing a level of geographic specificity that is not attained in Framework Plans and informing future discrete project for implementation. In developing the network map, priority bikeways, and concept level plans, the project team should revisit this Literature Review to document how a) proposed facilities are in general compliance with established plans, and b) the manner in which proposed routes meet the goals and objectives of established Framework Plans, thereby strengthening the case of discrete projects for future funding and implementation.
- The Passaic County Plans and Studies in Section III present a fertile and cohesive background from which *BIKEPassaicCounty* will advance. The project team should document in the Final Report, using Passaic County Plans and Studies as a reference, the ways in which the bicycle network will address key planning issues in the County, such as green infrastructure/stormwater management, Complete Streets, transit access, and sustainability. The *BIKEPassaicCounty* planning process can also be used as an opportunity for "inreach" to other departments within the County to discuss perspectives on funding, maintenance, compatibility with other County practices/procedures, and any other considerations, to ensure the *BIKEPassaicCounty* is recognized and ready for cooperative implementation by other County departments as appropriate.
- Based on review of the 16 Local Plans (Section IV) within Passaic County, there is wide variation in the level of consideration given to bicycle planning by the municipalities. From this standpoint, *BIKEPassaicCounty* creates the opportunity for Passaic County Planning to provide leadership in bicycle planning, both as a technical and an inspirational resource. To date, the *BIKEPassaicCounty* planning process has included direct outreach to the municipalities. The County should consider ways (which can be documented in the Final Report) to formally continue bicycle planning and implementation processes that directly involve the municipalities.

As the *BIKEPassaicCounty* planning process advances, it will be important for the project team to build and document consensus from prior planning processes (such as those referenced in this Literature Review), public and stakeholder outreach, and Steering Committee input to inform the proposed routes, concepts, and next steps that are to be included in the plan. This will create a consensus-driven plan with the best opportunity for effective implementation.