

Report

Part 1 of A Starter Guide for the US Great Lakes Waterfront Trail (US GLWT)

Prepared for:

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Table of Contents

Part 1 of the Starter Guide for the US Great Lakes Waterfront Trail

Acknowledgements	4
US Great Lakes Waterfront Trail	4
Pennsylvania	4
Report	5
<i>Report Goals</i>	5
1. Project Overview	6
US GLWT Overview	6
Project Partners and Partner Goals	6
Erie, PA - Pilot Site	6
The Vision behind the US GLWT: US GLWT Briefing Memo	7
2. Stakeholder Engagement	8
2.1 Stakeholder Engagements	8
2.2 Stakeholder Concerns	8
2.3 Lessons Learned for future US GLWT Engagement	9
3. Methods	10
3.1 Assessment Phase	11
Visioning	11
Site Visit - June 2025	12
Literature Review	12
Coding	13
3.2 Synthesis Phase	13
Trail types	14
Trail Mapping	14
3.3 Design Phase	15
Iterative Process - Project Scale	15
Trail Design Toolkit	15
3.4 Literature Review	16
Previous Trail Initiatives	16
Trail Design Standards	16
Previous Pennsylvania Engagements	16
3.5 Lessons Learned from Previous PA Engagements	17
4. Summary of Lessons Learned for the US GLWT	18
References	19
Appendices	21
A. List of Reviewed Erie Planning Documents	21
B. Maps	23
B.1 Map of Erie County Trails and Public Access, Overview	23
B.2 Map of Erie County Trails and Public Access, Downtown and Bayfront	25
B.3 Map of Erie County Trails and Public Access, Lakeside	27
B.4 Map of Erie County Trails and Public Access, West Side	29
B.5 Map of Erie County Trails and Public Access, East Side	31
C. Stakeholder Engagement Summary	33
C.1 Initial Survey - June And August, 2025	33
C.2 Event 1 - November 13, 2025	33
C.3 Event 2 - January 28, 2026	35

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Report

The School for Environment and Sustainability Great Lakes Waterfront Trail (SEAS-GLWT) Report discusses the behind-the-scenes actions and thought process that went into the design of the Starter Guide, from the team’s initial site visit through testing the toolkit in a Great Lakes community (Erie County, Pennsylvania), and provides lessons learned from the pilot site.

Report Goals

Users of the report should be able to:

- Understand the process of how the starter guide was built
- Learn more different considerations when applying Starter Guide principles to local communities
- Review lessons learned from applying trail design processes to the pilot site

1. Project Overview

US GLWT Overview

Imagine a binational recreation trail along the largest chain of freshwater lakes in the world. The trail connects countries and communities through bicycle and walking paths along spectacular scenery. By connecting already existing trails and trail systems, the U.S. Great Lakes region can create its very own U.S. Great Lakes Waterfront Trail (US GLWT).

The CSGMidwest and NPS-RTCA programs are collaborating to explore the development of a U.S. Great Lakes Waterfront Trail (US GLWT) as a companion to Canada's Great Lakes Waterfront Trail (CA GLWT). This multi-state initiative spans eight states, each with their own unique identities, stakeholders, and trail management processes.

The successful Canadian Waterfront Trail spans 2,200 miles (3,600 km) and connects 170 communities and First Nations (Waterfront Regeneration Trust, n.d.-a). Each year, the Canadian Waterfront Trail holds the Great Waterfront Trail Adventure to raise awareness of the Great Lakes Waterfront Trail and the communities that support it (Waterfront Regeneration Trust, n.d.-b). The trail runs through major cities like Toronto and supports both pedestrian and cycling access.

The US GLWT aims to deliver unforgettable outdoor experiences, expand outdoor recreation and ecotourism opportunities, promote conservation, and enhance quality of life.

Project Partners and Partner Goals

The Council of State Governments, Midwestern Office (CSGMidwest) and The National Park Service Rivers, Trails, and Conservation Assistance (NPS-RTCA) partners cover a wide breadth of geographic space and federal, state, and local agencies. Partners hold quarterly roundtable meetings with 40+ participants

The PA partners prioritize highlighting public lands and potentially forming a Pennsylvania Scenic Vista Program. The focus of this project will be on connecting the PA Great Lakes Seaway Trail with the Karl Boyes National Recreation Trail on Presque Isle State Park. This 13.4-mile multi-purpose trail loops around the peninsula, providing access to both the bay side and Lake Erie beaches.

Erie, PA - Pilot Site

Like many places in the Great Lakes region, Erie County holds its own attractions: the shores of Lake Erie, the unique Presque Isle peninsular, and the beloved Purple Martin songbird. Though unique in several ways, it is also representative of other Great Lakes communities. Through piloting the Starter Guide in Erie County, this report demonstrates how to apply the generalizable Starter Guide to local contexts.

For such a large-scale initiative, local expertise is critical when connecting trail segments across various state and local boundaries. Stakeholders within Erie County have been an integral part of this process, bringing local knowledge,

vision, and experiences into trail discussions.

The Vision behind the US GLWT: US GLWT Briefing Memo

The US GLWT Briefing Memo (U.S. Great Lakes Waterfront Trail, 2024) describes the US GLWT vision, key principles and values, and benefits. The Briefing Memo guided the development of the Starter Guide and is shown below.

US GLWT Overview

“Imagine a binational recreation trail along the largest chain of freshwater lakes in the world, connecting countries and communities through bicycle and pedestrian pathways along spectacular scenery. By linking existing trail networks, the U.S. Great Lakes states can create the U.S. Great Lakes Waterfront Trail as a companion to Canada’s Great Lakes Waterfront Trail.”

- U.S. Great Lakes Waterfront Trail (2024)

US GLWT Vision

“All residents and visitors of the eight Great Lakes states are connected to and benefit from world-class freshwater, wildlife, recreation, and history through the U.S. Great Lakes Waterfront Trail...Supporters of the US GLWT proposal have agreed to the following key principles and values:

- Acknowledge and seek collaboration with Tribal Nations.
- Support and connect local trails with a unifying regional brand, while respecting individual local trail identity, ownership, and management.
- Build on existing infrastructure and connections from bicycling and pedestrian experiences, and assist with bridging gaps.
- Seek equitable access to the region’s natural amenities.
- Encourage cross-border and binational connections.
- Aspire to be an entirely off-road, non-motorized bicycling and pedestrian trail, without prohibiting other local trail uses.
- Promote Great Lakes outdoor recreation, ecotourism, and regional history.
- Support conservation, sustainability, and environmental education.”

- U.S. Great Lakes Waterfront Trail (2024)

2. Stakeholder Engagement

2.1 Stakeholder Engagements

Stakeholder engagement was an integral piece of this project to better understand local perspectives and perceived usefulness of project products. In total, the team engaged with the PA partners through April 2025 to April 2026, including:

- June 4, 2025: a Lake Erie Coastal Zone Advisory Committee meeting to interact with municipal representatives and survey stakeholders of their priorities in trail decisions
- November 13, 2025: a virtual stakeholder engagement event to learn more about Erie County's context and local stakeholder priorities
- January 28, 2026: a hybrid stakeholder engagement event to test the usefulness of the Starter Guide

From the three engagement opportunities above, the project team found positive support for the US GLWT initiative, with all 2025 survey respondents indicating likelihood (at least a 6 out of 10 for likelihood) to incorporate GLWT guidelines to their own regions' trail designs. Stakeholders' top priorities for US GLWT goals and impacts are around ADA accessibility, equity and inclusion, and greenspace and water access. In addition, the team identified several stakeholder concerns for implementing the US GLWT and provided lessons learned for future engagements.

2.2 Stakeholder Concerns

The strong support for this regional initiative demonstrates how local stakeholders and stakeholder groups value trail improvement and expansion projects. However, some concerns arose in conversation:

1. how to navigate around private property rights
2. the lack of support from the current federal administration
3. if participants had the right expertise to make trail type decisions

Navigating private property rights: The Starter Guide is a general guide that outlines a process and provides tools and resources for beginning conversations. However, the student team recognizes that there is no one-size-fits approach. As such, the US GLWT should encourage conversations around navigating private property rights while acknowledging how complex a multi-state initiative like the US GLWT can be.

Lack of support from the current federal administration: The visioning of the US GLWT exists during a divisive federal administration that has cut funding for national parks, forests, and other public lands (Zeno & Rowland-Shea, 2025). Despite this, the vast majority of Americans (69%) oppose the 2025 \$1 billion cut to the National Park Service (National Parks Conservation Association, 2025). Though the current situation is grim, the American public still supports public lands.

Having the right expertise: The trail planning and improvement process can be intimidating and confusing. The Starter Guide is a starting point for conversation, not a definite guide to all things trails. Trails along the US GLWT are ultimately maintained and under the authority of park and planning officials. However,

the Starter Guide ensures that anyone interested in trail improvement has the beginning tools, resources, and knowledge to start the conversation with local officials.

2.3 Lessons Learned for future US GLWT Engagement

From the stakeholder engagements, the team recommends the following considerations for future US GLWT engagements:

1. Connect with local stakeholders/decision-makers to understand the local context of the region (where influence lies, previous efforts, resource situation, etc).
2. Review previous local trail efforts
3. Frame engagements around usefulness to stakeholders, tailoring to the local context
4. Be flexible with engagements: offer hybrid options for in-person events, let the conversation move through topics if they are still relevant, and be open minded and acknowledge all perspectives
5. There is no one-size-fits-all approach: it is important to pay attention to tailor events to local contexts, rather than using the same exact procedure for every event

Connect with local stakeholders/decision-makers: Local stakeholders drive many of the projects at the regional and municipal level. Connecting with local expertise is crucial to gaining buy-in and ensuring a project is accepted and wanted by residents. Local stakeholders often have key insights that can greatly improve a project. For the Starter Guide, Erie County stakeholders tested the usefulness of the Toolkit, offering insights to improve its accessibility for anyone interested in trails. The project team also had main points of contact within Erie County who served to remind and bring potential engagement attendees to the events.

Review previous engagement efforts: Oftentimes, local communities already have resources and previous trail efforts in their archives. Instead of duplicating design and engagement efforts, reviewing previous documentation can provide insight to current and future trail work. For example, Erie planning documents included survey information from over 2000 people, discussing trail priorities of residents and the likelihood that they would use new and improved trails.

Frame engagements around usefulness to stakeholders: Local stakeholders often have limited capacity for new work. When attempting to gain stakeholder buy-in, projects that are relevant to supporting a department's mission will receive much more positive engagement than one that simply seeks opinions. For example, framing the US GLWT as a tourism and economic attraction to local communities is much better received than asking stakeholders to fill out a survey on trail priorities with no clear purpose behind it.

Be flexible with engagements: It is difficult to schedule frequent (and infrequent) meetings and events with large numbers of people. Offering alternative formats (in-person and hybrid over multiple dates) ensures the widest event accessibility. For example, the project team ran into logistical issues when snow storms were predicted to arrive the week of the November in-person event. Switching to a virtual event and offering a hybrid event in January was key to maintaining

engagement and ensuring usability of the Starter Guide.

There is no one-size-fits-all approach: Communities can vary drastically from each other, whether they are in the same county, state, or region. Recognizing that there is no one-size-fits-all approach opens up the possibility for multiple types of engagement methods. Tailoring events and engagement to local community culture, stakeholders preferences, and organizations offers an adaptable approach that acknowledges the uniqueness of each community.

3. Methods

The SEAS-GLWT project is structured into three project phases guiding its development and implementation: assessment, synthesis, and design.

1. The Assessment Phase establishes the foundation for trail design by analyzing existing environmental, cultural, and infrastructural conditions while gathering community input.
2. The Synthesis Phase builds on the insights gathered during Assessment Phase to shape a flexible, place-specific decision-making framework for the pilot site, Erie County.
3. The Design Phase will test the Synthesis Phase’s decision-making framework in Erie County, PA as a proof-of-concept, with the eventual goal of guiding design choices for any regions within the GLWT system.

3.1 Assessment Phase

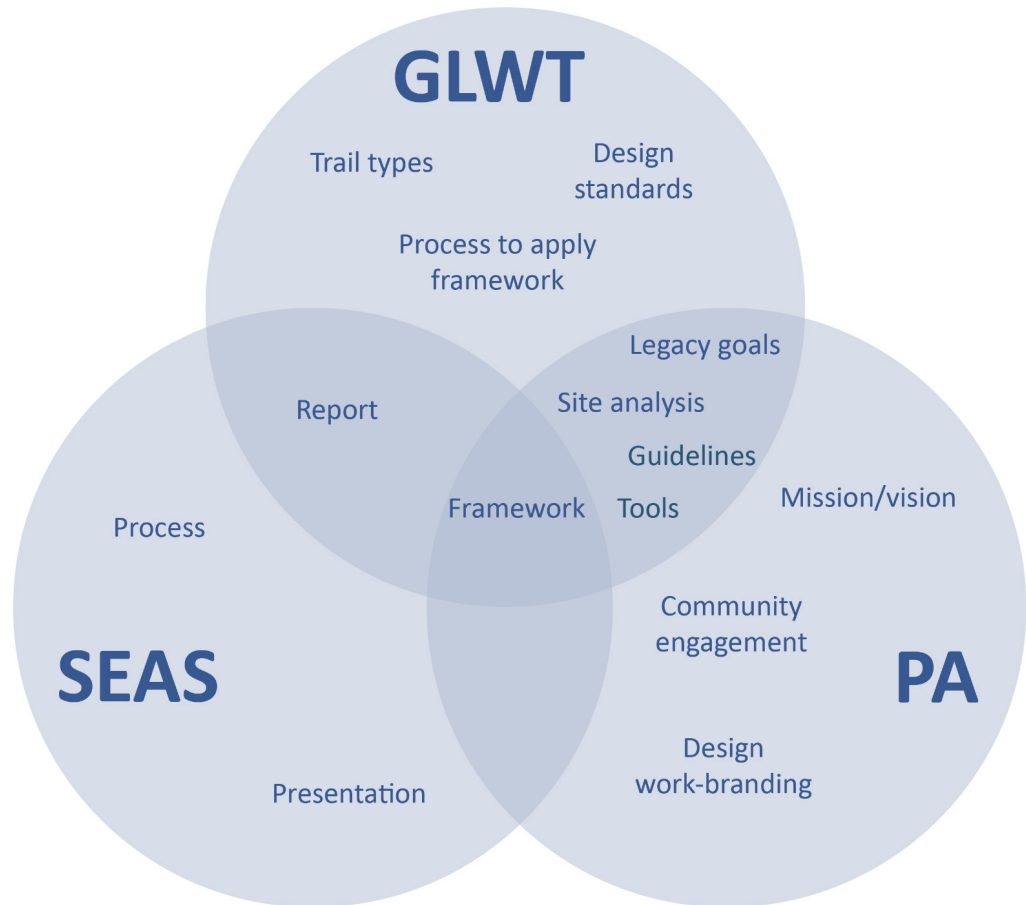
The primary goal of the assessment phase was to gather data to establish a foundational understanding for the decision-making framework. This phase included site visits, visioning exercises, a comprehensive literature review, and coding. An initial precedent analysis was conducted, examining existing trail projects and constructed trails to assess their design, construction, and usage. In discussion with CSGMidwest, the team participated in GLWT roundtable meetings to learn about the overarching vision for the Great Lakes Waterfront Trail and discussed with GLWT leadership to determine which of the eight states in the Great Lakes region would serve as a pilot site. Erie County, Pennsylvania was ultimately selected as the pilot location.

Visioning

In meetings with the National Parks Service Rivers, Trails and Conservation Assistance Program (NPS-RTCA), Council of State Governments Midwest Office (CSGMidwest), PA Departments of Environmental Protection (DEP), and PA Department of Conservation and Natural Resources(DCNR), it became clear that the SEAS-GLWT Starter Guide would need to be flexible enough to apply at the regional Great Lakes scale, while also being adaptable to individual state, municipal, and local contexts.

As an initial visioning step, the team visually laid out the three “clients” of the project and their respective priorities (Figure 1). All three client groups prioritized the decision-making framework and stakeholder engagement, focusing the team’s research direction.

Figure 1.
 Client Venn
 Diagram
 describing the
 priorities and asks
 for the SEAS-GLWT
 project.
 Created by Emily
 Carra.



Next, the team outlined specific clients, their asks, and anticipated deliverables. Organizing all the information by client priorities and specific asks laid out the foundation for the Starter Guide. At the Assessment Phase, the main deliverable was the decision-making framework.

Site Visit - June 2025

A week was spent in Erie County conducting site visits and analyses. There, the student team met with local PA partners, who familiarized the student team with current cultural, historical, and ecological contexts. PA partners took the student team to greenspaces located in all nine Erie County municipalities. The team was also able to meet with local community and government leaders to learn about Erie County needs, wants, and public green spaces from across all municipalities. Valuable time was spent becoming familiar with Erie County’s points of interest (POIs), from places listed on tourism brochures, parks on the county’s Parks and Recreation websites, and places indicated by partners and local stakeholders.

Literature Review

The student team conducted a preliminary literature review. This literature review incorporated trail design articles specific to Pennsylvania as well as guidelines and articles from a global perspective. The breadth of articles reviewed stemmed from state, city, and local master plans, local and global design construction standards and metrics, trail user studies, ecological design theory, and framework building strategies.

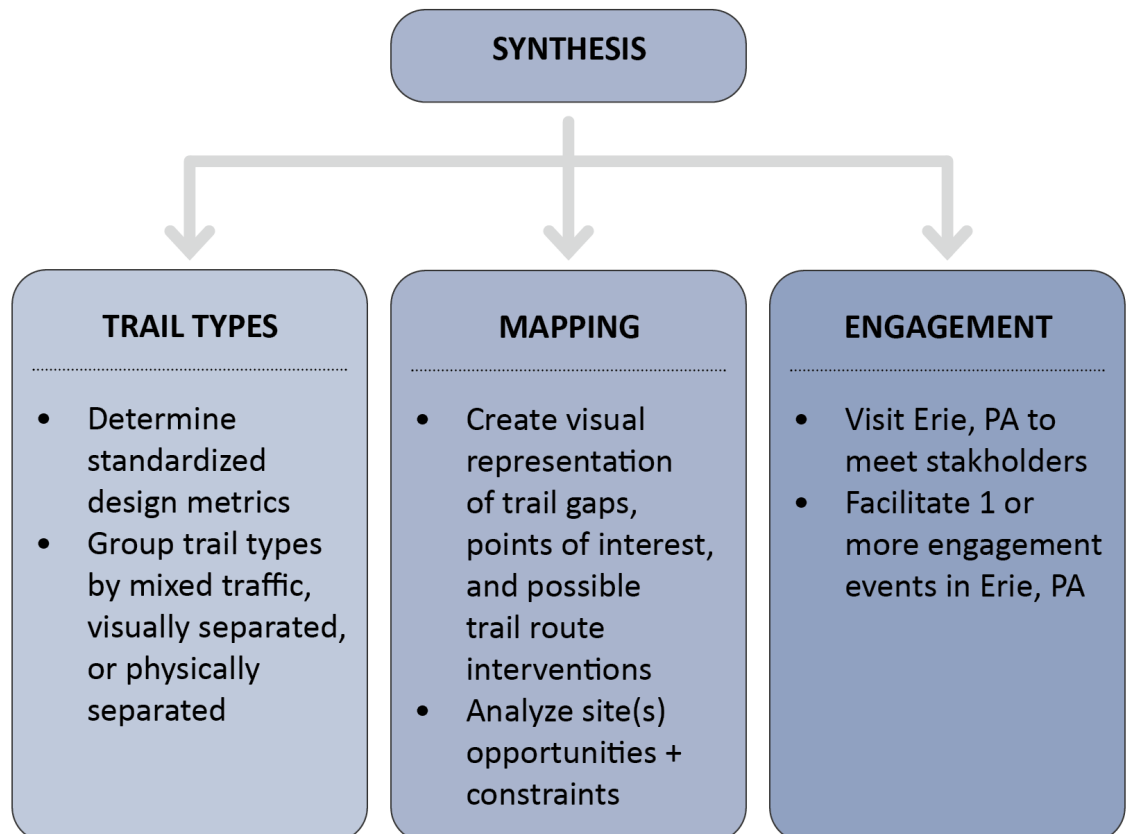
Coding

The team also reviewed 33 planning documents pertaining to Erie County. Among them were municipal master plans, greenway plans, transportation plans, and recreation plans shared by Erie County stakeholders. The student team coded documents for two purposes: 1) **design standards** to organize a list of design metrics and standards and 2) **visioning** to determine patterns in trail design priorities, recommendations, and synthesizing information from previous stakeholder engagements. Design standards and visioning are recorded in coding tables along with the document title, type of document, and other information pertaining to the two coding purposes. Final tables showing reviewed documents are in Appendix A.

3.2 Synthesis Phase

The purpose of this phase was to translate insights identified during the previous Assessment Phase into actionable, design-oriented outputs. This stage aimed to develop 1) **trail types** to develop a comprehensive list of trail types that characterize the range of conditions and environments likely to be encountered along the Great Lakes Waterfront Trail (GLWT); 2) **trail mapping** to delineate the proposed GLWT route within Erie County; and (3) **stakeholder engagement** to engage with PA stakeholders to solicit feedback on deliverables. Together, these aims will inform and inspire the trail design, ensuring it is grounded in empirical findings and stakeholder perspectives. The synthesis phase combines design work with stakeholder engagement to further develop the decision-making framework.

Figure 2.
*Synthesis Phase
Activities Outlining
the Processes
for the Three
Activities.*
Created by Emily
Carra.



Trail types

From a regional perspective, it was important to have a standardized set of design metrics to guide the design and eventual construction of GLWT trail segments. Each state within the region has different regulations in place to dictate the widths of sidewalks, multimodal trails, bicycle lanes, etc. The design standards table completed during coding has been used to generate generalizable trail types. Each trail type consists of the minimum, preferred, and maximum design standards. States can then select the trail type that best represents their local context and use the standards within as a starting point. A more detailed diagram of the trail types can be found in the Trail Design Toolkit.

Trail Mapping

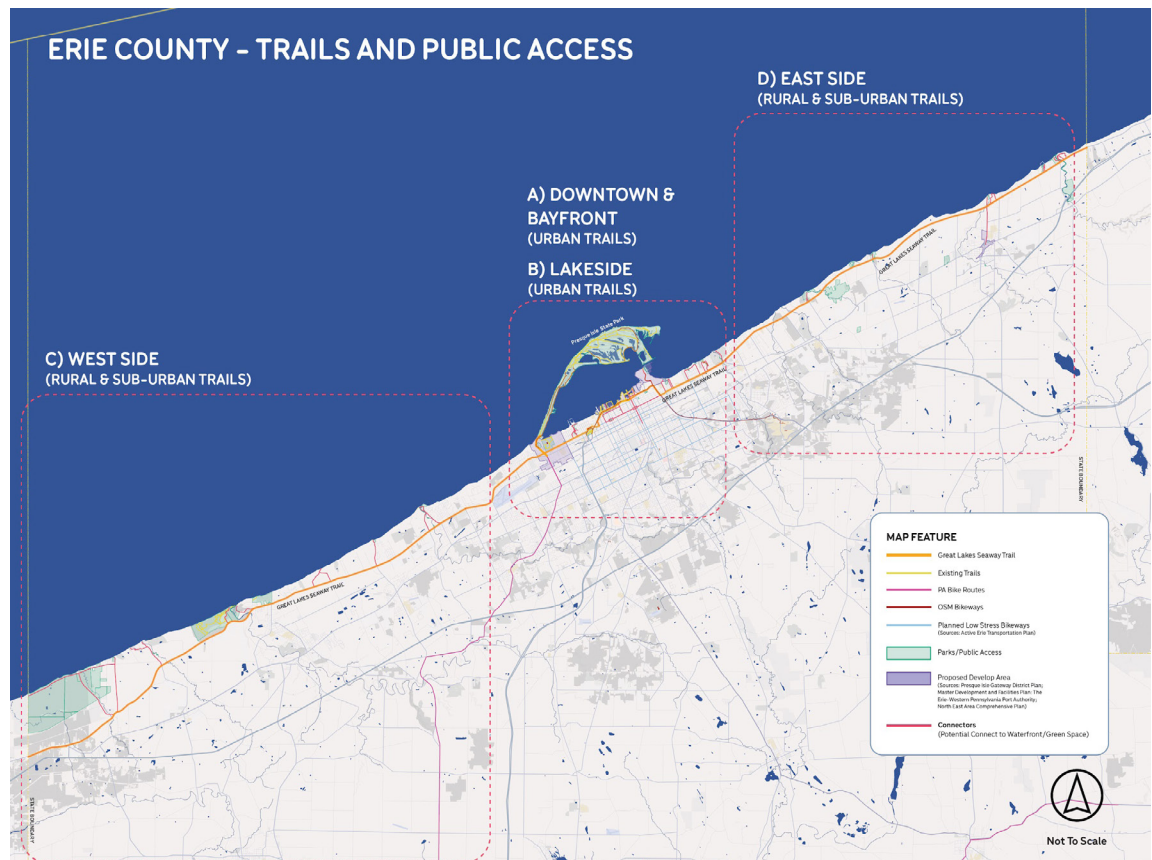
Purdue University, in collaboration with the National Park Service (NPS) provided the SEAS-GLWT team with a GIS map delineating existing trails from the Great Lakes region. Through this map, two thematic gaps were identified: 1) the existing Seaway Trail did not extend along the entire length of Pennsylvania's lake Erie coast and 2) multiple parts of the trail including previously identified POIs were not located near the waterfront.

GIS layers from NPS and other sources as well local planning documents were used to identify trail offshoots along the path of the PA Seaway Trail. These trail offshoots were used to analyze trail gaps and potential of connection.

The project team mapped trails in Erie County to:

- Visualize site context
- Identify gaps between trail
- Identify potential connections between existing trails and local public spaces
- Support conversations with stakeholders to further define goals

Figure 3.
 Erie County -
 Trails and Public
 Access map
 showing the main
 three regions
 of Erie County
 the student
 team focus on
 (enlargements
 of each section
 can be found in
 Appendix B).
 Created by
 Xingyan Chen.



3.3 Design Phase

The purpose of this phase was to refine and produce the final version of the projects deliverable, this includes but is not limited to: Design Toolkit, Report, Presentation, Finalized Trail Types and Maps. This phase was designed to be highly iterative to work in tandem with the multiple engagements that took place throughout the past and current project phases.

Iterative Process - Project Scale

The design phase of the project relied heavily on the iterative process. Built into the project timeline were specific team meetings where the student team could ask, *is this working? Is this product actually accomplishing what is being asked? How will this process look like as a final deliverable, and is it usable?* These guiding questions allowed the research team to refine the work being done, for example the original trail type layout, while detailed, was not inherently accessible to non-designers therefore it needed to be rethought. From this, the decision tree was developed leading to the current and final Design Toolkit layout.

Trail Design Toolkit

Ultimately the design toolkit became a valuable method for testing the functionality of the work produced by the team. It was a valuable impetus for the iterative process. The team rigorously tested the use of the design toolkit to make sure it was 1) **accessible to designers and non-designers**, 2) **conveyed the appropriate information** from which to design a well thought out trail, 3) and **guided users through the process of selecting the best trail type** to fit a generalized set of local contexts.

3.4 Literature Review

Previous Trail Initiatives

This SEAS student team drew on diverse historical and contemporary precedents like the Landscape Performance Series (Landscape Architecture Foundation, n.d.), the Great Lakes @ Trenton Way Storyboard (University of Michigan Taubman College Public Design Corps, 2025), and research conducted by landscape architecture scholars, such as Joan Nassauer & Zhifang Wang. The team also incorporated insights from key stakeholders, including nonprofits and both current and prospective trail users.

Trail Design Standards

Making a regional trail system like the US GLWT requires having a standardized set of trail design solutions to guide trail development. Each state within the Great Lakes region has their own regulations determining the widths of sidewalks, multimodal trails, bicycle lanes, and so on. From reviewing trail guides (National Association of City Transportation Officials (NACTO), 2025; Goodman, D. & United States Federal Highway Administration (FHWA), 2016; American Association of State Highway Transportation Officials (AASHTO), 2024), the project team developed generalizable trail designs for the US GLWT. Each trail design consists of standardized minimum, preferred, and maximum dimensions. The aim of these trail designs is to allow individual states and regions to select standardized trail designs that best represent their local context and use the standards within as a starting point. A diagram of the trail types can be found in the Trail Design Toolkit.

Previous Pennsylvania Engagements

From the literature review of Erie planning documents, the project team reviewed previous stakeholder engagements that had occurred in the Erie County region. These documents provide context for previous regional trail initiatives and the responses from community members.

From Erie County documents, the project team estimated a total number of 2000+ people surveyed across Erie County and Pennsylvania state over the last 2014-2024 years. Statistics of note include:

- 45% of Erie County adults aged 18 and above reported their physical health was not good for one or more days in the past month (PA average is 39%) (Erie County Department of Planning and Community Development, 2020).
- 77% of participants depend on a car to get to parks and recreational facilities (Erie County Department of Planning and Community Development, 2020).
- According to the 2022 Census, over 30% of the County's population participated in walking as a form of exercise (Erie County Department of Planning & Community Development, 2023).
- 65% of Pennsylvanians agree that parks, trails, and open space are an essential part of the healthcare system (Pennsylvania Department of Conservation and Natural Resources, 2020).
- Over 19% of Erie households do not have access to a vehicle (City of Erie, 2021).
- 56% of Harborcreek respondents agreed with a confidence level of 70% or higher that they would be likely to utilize increased pedestrian and / or

cycling opportunities in the Township (Harborcreek Township, 2024).

3.5 Lessons Learned from Previous PA Engagements

From the literature review, the project team highlights the following findings:

- The importance of design for a wider group of trail users
- There is strong local support for parks, trails, and open spaces
- There is limited access to park and recreational facilities

Design for a wider group of trail users: As stated by the Pennsylvania Department of Conservation and Natural Resources (2020), “Trails are no longer just for walking, hiking, and biking; they are adapting to serve the needs of growing and diversifying trail uses such as mountain biking, horseback riding, e-biking, kayaking, and motorized trail riding.” As types of trail users expand, it is becoming more and more important to acknowledge and consider all the potential trail users. Expanding trail access to a wider group of trail users benefits everyone.

There is strong local support for parks, trails, and open spaces: Strong local support for greenspaces is critical to ensuring enough determination to complete long term projects. 56% of Harborcreek respondents said they would use increased pedestrian and cycling opportunities (Harborcreek Township, 2024), highlighting how Erie County locals prioritize these greenspaces.

There is limited access to park and recreational facilities: Erie County recognizes that residents have limited access to these parks and trails. 77% of survey participants depend on cars to get to parks, but over 19% of households lack vehicle access. This disparity demonstrates the need for improved access to parks and trails.

4. Summary of Lessons Learned for the US GLWT

The project team emphasizes that while Erie County is the pilot site for the Starter Guide, each Great Lakes community has its own unique strengths and challenges. As such, processes used in Erie County cannot and should not be taken as the one and only processes for the Great Lakes region. Instead, Erie County serves as the pilot for the Starter Guide, and provides lessons for any further trail processes.

From the literature review, the project team highlights the following findings:

1. The importance of design for a wider group of trail users
2. There is strong local support for parks, trails, and open spaces
3. There is limited access to park and recreational facilities

The strong support for this regional initiative demonstrates how local stakeholders and stakeholder groups value trail improvement and expansion projects. However, some concerns arose in conversation:

1. how to navigate around private property rights
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1. Connect with local stakeholders/decision-makers to understand the local context of the region (where influence lies, previous efforts, resource situation, etc)
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References

- American Association of State Highway Transportation Officials. (2024). *Guide for the Development of Bicycle Facilities (5th Edition)*. Washington, D.C: American Association of State Highway and Transportation Officials (AASHTO).
- City of Erie. (2021). *Active Erie Transportation Plan*. https://www.erie.pa.us/community/active_erie/index.php
- Erie County Department of Planning & Community Development. (2023). *Erie to Corry Trail Feasibility Study & Tourism Analysis*. <https://eriecountypa.gov/departments/planning-and-community-development/programs/parks-trails-and-recreation-plan/>
- Erie County Department of Planning and Community Development. (2020). *Erie County Parks, Trails and Recreation Plan Adopted July 2020*. <https://eriecountypa.gov/departments/planning-and-community-development/programs/parks-trails-and-recreation-plan/>
- Goodman, D. & United States Federal Highway Administration. (2016). *Small Town and Rural Multimodal Networks*. U.S. Department of Transportation, Federal Highway Administration.
- Harborcreek Township. (2024). *Harborcreek Comprehensive Plan*.
- Landscape Architecture Foundation. (n.d.). *Case Study Briefs*. Landscape Performance Series. Retrieved April 15, 2026, from <https://www.landscapeperformance.org/case-study-briefs>
- Millcreek Township. (2022). *Presque Isle Gateway District Plan*. <https://www.millcreektownship.com/387/Presque-Isle-Gateway-District-Plan>
- National Association of City Transportation Officials. (2025). *Urban Bikeway Design Guide, Third Edition*. Princeton University Press. <https://books.google.com/books?id=mNI9EQAAQBAJ>
- National Parks Conservation Association. (2025). *Nobody Wants This: New Poll Finds Majority of Americans Oppose Attacks on National Parks and Park Staff*. National Parks Conservation Association. Retrieved April 15, 2026, from <https://www.npca.org/resources/4301-nobody-wants-this-new-poll-finds-majority-of-americans-oppose-attacks-on>
- North East Borough & North East Township. (2022). *North East Area Comprehensive Plan Draft November 1, 2022*. <http://www.northeasttwp.org/Portals/0/Comp%20Plan.pdf>
- OpenStreetMap. (n.d.). *OpenStreetMap* [Map]. Retrieved April 16, 2026, from <https://www.openstreetmap.org/>
- Pennsylvania Department of Conservation and Natural Resources. (2020). *Pennsylvania Trail Network Strategic Plan 2020-2024*.
- Pennsylvania Department of Transportation GIS. (2025a). *RMSADMIN (Administrative Classifications of Roadway)* [GIS Feature Layer]. <https://data-pennshare.opendata.arcgis.com/datasets/PennShare::rmsadmin-administrative-classifications-of-roadway/about>
- Pennsylvania Department of Transportation GIS. (2025b). *RMSTRAFFIC (Traffic Volumes)* [GIS Feature Layer]. <https://data-pennshare.opendata.arcgis.com/datasets/PennShare::rmstraffic-traffic-volumes/about>
- The Erie-Western Pennsylvania Port Authority. (2018). *Master Development and Facilities Plan*. <https://www.porterie.org/wp-content/uploads/2021/07/Port-Erie-Master-Plan-for-website.pdf>

The National Park Service – Rivers, Trails, and Conservation Assistance program. (2025). *Great Lakes Waterfront Trail Gap Analysis* [Dataset]. University of Michigan Taubman College Public Design Corps. (2025, December 3). *THE GREAT LAKES WAY @ TRENTON* [ArcGIS StoryMaps]. <https://storymaps.arcgis.com/stories/2fa966a3830e4c4b8e22dd69e7bea0b4>

U.S. Great Lakes Waterfront Trail. (2024). *Briefing Memo* [Memorandum]. Waterfront Regeneration Trust. (n.d.-a). *Home*. Great Lakes Waterfront Trail. Retrieved April 15, 2026, from <https://waterfronttrail.org/home/>

Waterfront Regeneration Trust. (n.d.-b). GWTA 2026 Overview. *Great Lakes Waterfront Trail*. Retrieved April 15, 2026, from <https://waterfronttrail.org/great-waterfront-trail-adventure/gwta/>

Zeno, S., & Rowland-Shea, J. (2025, July 1). The Trump Administration Is Recklessly Axing Funding and Staff for America’s National Parks, Forests, and Public Lands. *Center for American Progress*. <https://www.americanprogress.org/article/the-trump-administration-is-recklessly-axing-funding-and-staff-for-americas-national-parks-forests-and-public-lands/>

Appendices

A. List of Reviewed Erie Planning Documents

	Document Title	Regional Authority or Organization	Type
	Fairview Township Corridor Study Report	Fairview (Township)	Guidelines
	Market Analysis and Industry Analysis. Prepared for the Erie Port Authority Master Development Plan.	Erie-Western Pennsylvania Port Authority	Guidelines
	Activating our vision. a path to success. city of erie, pennsylvania	City of Erie	Guidelines
	Downtown Erie Design Guidelines	City of Erie	Guidelines
	2019 Pennsylvania Conservation Landscapes: Models of Successful Collaboration	DEP	Guidelines
	Approved Land Development Plans	Harborcreek (Township)	Guidelines
	Land Development Plans Under Review	Harborcreek (Township)	Guidelines
	East Erie Bayfront Greenway Trail Plan	East Bayfront Greenway	Greenway Plan
	Waterfront Trail Design, Signage, & Maintenance Guideline Update	Waterfront Regeneration Trust (WRT)	Guidelines
	Active Erie Transportation Plan: A Plan for People who Walk and Bike in Erie, PA	City of Erie	Master Plan
	Presque Isle State Park: Concept Study for Multimodal Improvements	Presque Isle	Trail Dev.
	Erie County Parks, Trails and Recreation Plan Adopted July 2020	Erie County Council	Trail Dev.
	Erie County Parks and Recreation Trail Plan	Erie County Council	Trail Dev.
	Seaway Trail Pennsylvania Corridor Management Plan	Seaway Trail	Trail Dev.
	Pennsylvania Greenways: An Action Plan for Creating Connections	DEP	Greenway Plan
	Comprehensive Recreation, Parks and Open Space Plan	City of Erie	Hyperlink
	Erie to Corry Trail Feasibility Study & Tourism Analysis	Erie to Corry Advisory Committee	Hyperlink
	Greater Erie Regional Trails	Erie Area Council of Governments	Hyperlink
	The Erie to Corry Trail Connection Erie to Pittsburgh Trail System	Erie to Corry	Hyperlink
	Fairview Township Vision 2035 Comprehensive Plan Update (DRAFT)	Fairview (Township)	Master Plan

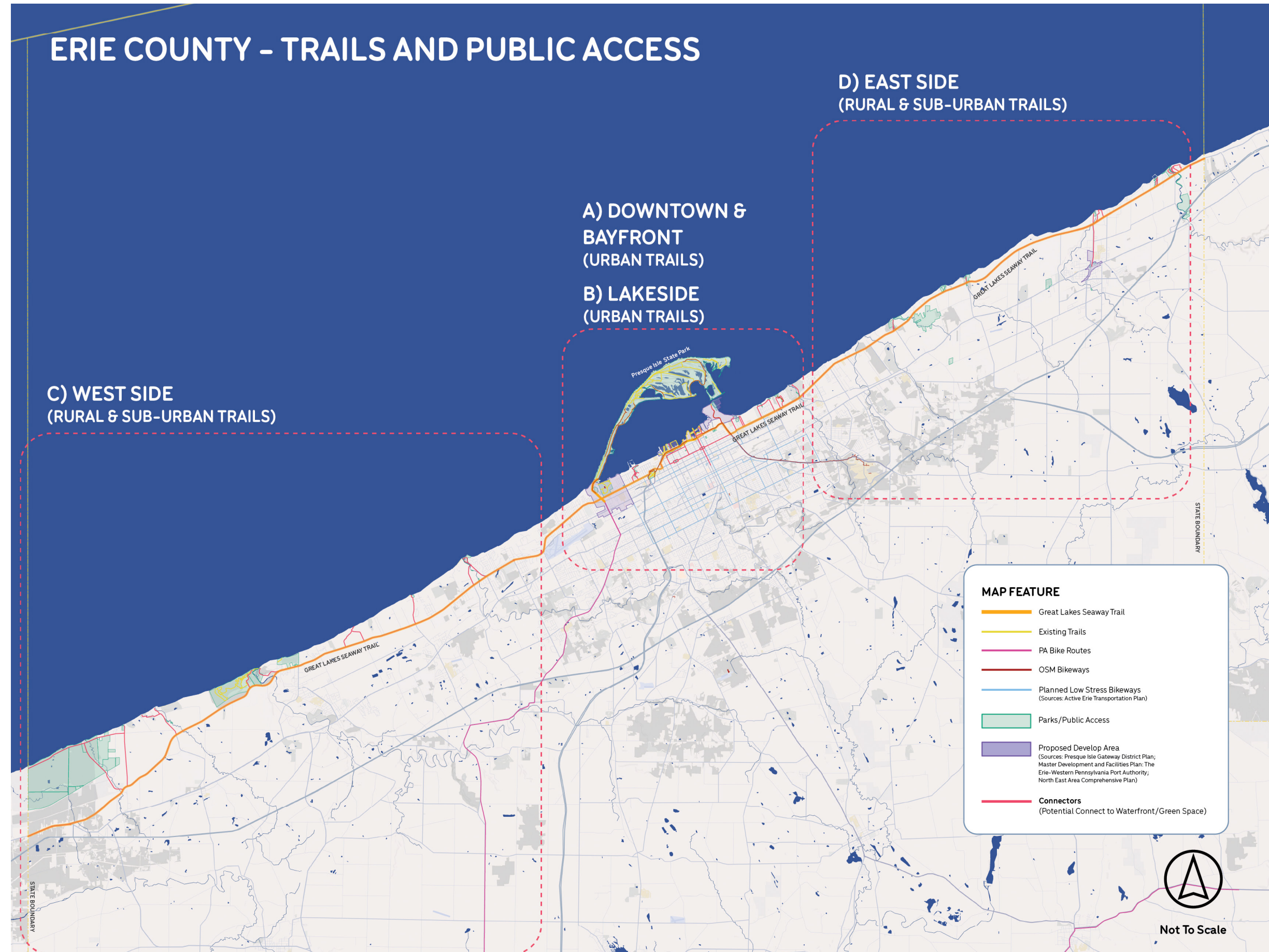
Erie Metropolitan Planning Organization 2050 Long Range Transportation Plan	PennDOT	Master Plan
City of Erie Pennsylvania FY2023 Annual Action Plan	City of Erie	Master Plan
2018 Millcreek Township, PA Comprehensive Plan	Millcreek (Township)	Master Plan
Harborcreek Comprehensive Plan Final Plan: March 2024	Harborcreek (Township)	Master Plan
North East Area Comprehensive Plan	North East (Township and Borough)	Master Plan
Master Development and Facilities Plan. The Erie-Western Pennsylvania Port Authority	Erie-Western Pennsylvania Port Authority	Master Plan
Presque Isle Gateway District Plan	Millcreek (Township)	Master Plan
Erie Pennsylvania Downtown Streetscape Master Plan Jul 15, 2010	City of Erie	Master Plan
Erie Refocused Comprehensive Plan and Community Decision-Making Guide	City of Erie	Guidelines
Presque Isle Township Master Plan	Presque Isle	Master Plan
Summary of Motorized Recreation Interests in Pennsylvania	DCNR	Guidelines
Appendix B Pennsylvania's Specialized Trail User Group Summary of Input	DCNR	Trail Dev.
PA Land and Water Trail Network Strategic Plan 2020-2024	DCNR	Trail Dev.

B. Maps

B.1

Map of Erie County Trails and Public Access, Overview
Created by Xingyan Chen.

Note. For all the maps in Appendix B, made by Xingyan Chen, data sources: City of Erie, 2021; Millcreek Township, 2022; North East Borough & North East Township, 2022; OpenStreetMap, n.d.; Pennsylvania Department of Transportation GIS, 2025 a; Pennsylvania Department of Transportation GIS, 2025b; The Erie-Western Pennsylvania Port Authority, 2018; The National Park Service – Rivers, Trails, and Conservation Assistance program (NPS-RTCA), 2025.



B.2
 Map of Erie
 County Trails and
 Public Access,
 Downtown and
 Bayfront.
 Created by Xing-
 yan Chen.



MAP FEATURE

- Great Lakes Seaway Trail
- Existing Trails
- PA Bike Routes
- OSM Bikeways
- Planned Low Stress Bikeways (Sources: Active Erie Transportation Plan)
- Parks/Public Access
- Proposed Develop Area (Sources: Presque Isle Gateway District Plan; Master Development and Facilities Plan; The Erie-Western Pennsylvania Port Authority; North East Area Comprehensive Plan)
- Connectors (Potential Connect to Waterfront/Green Space)

CONNECTOR TABS

Holland St/E Front St/State St

Public Access: Dobbins Landing/Wolverine Park/Linear Bikepath

POIs & Amenities: Water Access, Attraction, Viewpoint, Picnic/Camp, Food, Public Service, Bicycle Service, Parking, Information

Typology Recommendations: [Red dot]

And vote your preference here...

LEAVE COMMENTS!



B.3
 Map of Erie County
 Trails and Public
 Access, Lakeside.
 Created by Xingyan
 Chen.



MAP FEATURE

- Great Lakes Seaway Trail
- Existing Trails
- PA Bike Routes
- OSM Bikeways
- Planned Low Stress Bikeways
(Sources: Active Erie Transportation Plan)
- Parks/Public Access
- Proposed Develop Area
(Sources: Presque Isle Gateway District Plan; Master Development and Facilities Plan; The Erie-Western Pennsylvania Port Authority; North East Area Comprehensive Plan)
- Connectors
(Potential Connect to Waterfront/Green Space)

CONNECTOR TABS

Holland St/E Front St/State St
 Public Access Dobbins Landing/Wolverine Park/Linear Bikepath

POIs & Amenities

- Water Access
- Attraction
- Viewpoint
- Picnic/Camp
- Food
- Public Service
- Bicycle Service
- Parking
- Information

Typology Recommendations

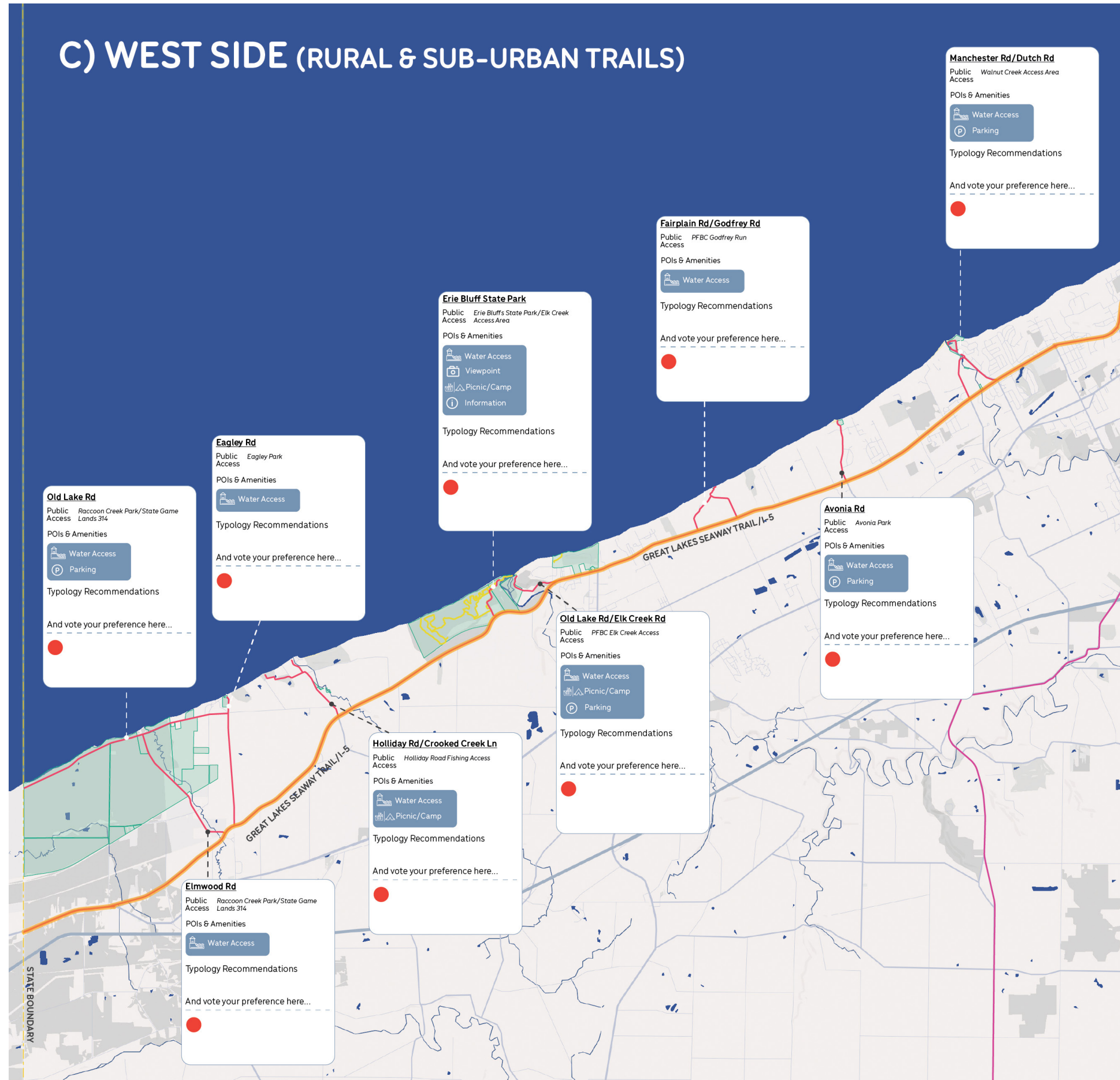
And vote your preference here...

LEAVE COMMENTS!



Not To Scale

B.4
 Map of Erie County
 Trails and Public
 Access, West Side.
 Created by Xingyan
 Chen.



MAP FEATURE

- Great Lakes Seaway Trail
- Existing Trails
- PA Bike Routes
- OSM Bikeways
- Planned Low Stress Bikeways (Sources: Active Erie Transportation Plan)
- Parks/Public Access
- Proposed Develop Area (Sources: Presque Isle Gateway District Plan; Master Development and Facilities Plan; The Erie-Western Pennsylvania Port Authority; North East Area Comprehensive Plan)
- Connectors (Potential Connect to Waterfront/Green Space)

CONNECTOR TABS

Holland St/E Front St/State St
 Public Access: Dobbins Landing/Wolverine Park/Linear Bikepath

POIs & Amenities: Water Access, Attraction, Viewpoint, Picnic/Camp, Food, Public Service, Bicycle Service, Parking, Information

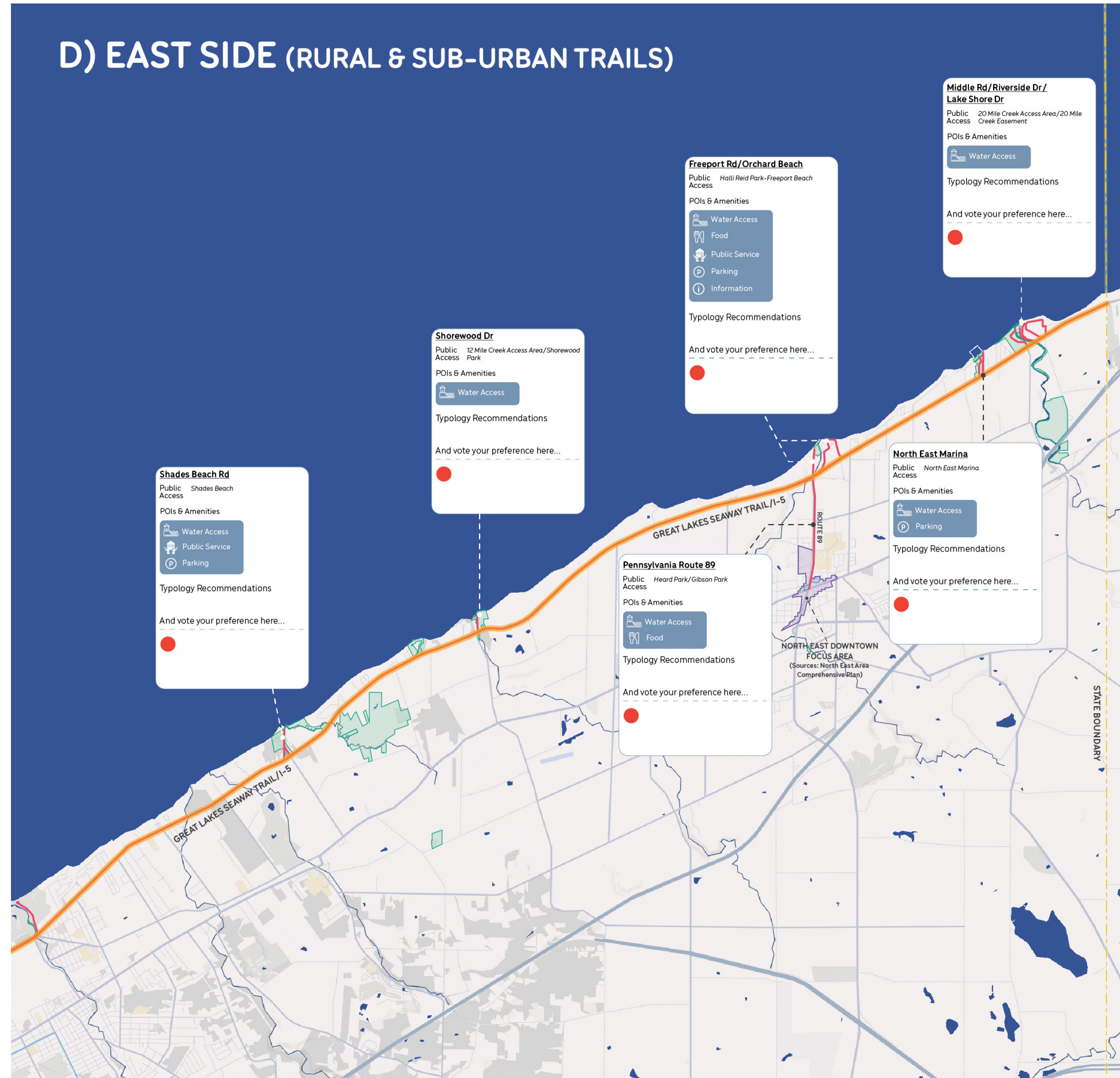
Typology Recommendations: [Red dot]

And vote your preference here...

LEAVE COMMENTS!



Not To Scale



MAP FEATURE

- Great Lakes Seaway Trail
- Existing Trails
- PA Bike Routes
- OSM Bikeways
- Planned Low Stress Bikeways
(Sources: Active Erie Transportation Plan)
- Parks/Public Access
- Proposed Develop Area
(Sources: Presque Isle Gateway District Plan; Master Development and Facilities Plan; The Erie-Western Pennsylvania Port Authority; North East Area Comprehensive Plan)
- Connectors
(Potential Connect to Waterfront/Green Space)

CONNECTOR TABS

Holland St/E Front St/State St
 Public Access: Dobbins Landing/Wolverine Park/Linear Bikepath

POIs & Amenities: Water Access, Attraction, Viewpoint, Picnic/Camp, Food, Public Service, Bicycle Service, Parking, Information

Typology Recommendations

And vote your preference here...

LEAVE COMMENTS!



Not To Scale

C. Stakeholder Engagement Summary

Stakeholder engagement was an integral piece of this project to better understand local perspectives and perceived usefulness of project products. The stakeholder engagement portion of the project is in response to the team's former work and June visit to Erie County, PA. During the June visit, the student team conducted site visits and engaged in preliminary discussions with local stakeholders while collecting relevant materials.

Over the following months, the team systematically coded the data set, developing several trail types suitable for the various conditions of the Great Lakes Waterfront Trail (GLWT) along the PA coastline, and created trail offshoot maps to identify existing trails that could serve as connections to the lakefront.

C.1 Initial Survey - June And August, 2025

To guide the team's work on trail design, the student team sent out an initial survey to gauge priorities for trail planning and decision. This survey was sent out to the June 2025 Lake Erie Coastal Zone Advisory Committee (LEZAC) and to the August GLWT Roundtable. The survey received 17 responses, 5 of which came from Erie County. Responses were received from all Great Lake states except for Indiana and came from a variety of federal, state, and local agencies. Respondents' top 3 priorities for GLWT focuses are as follows:

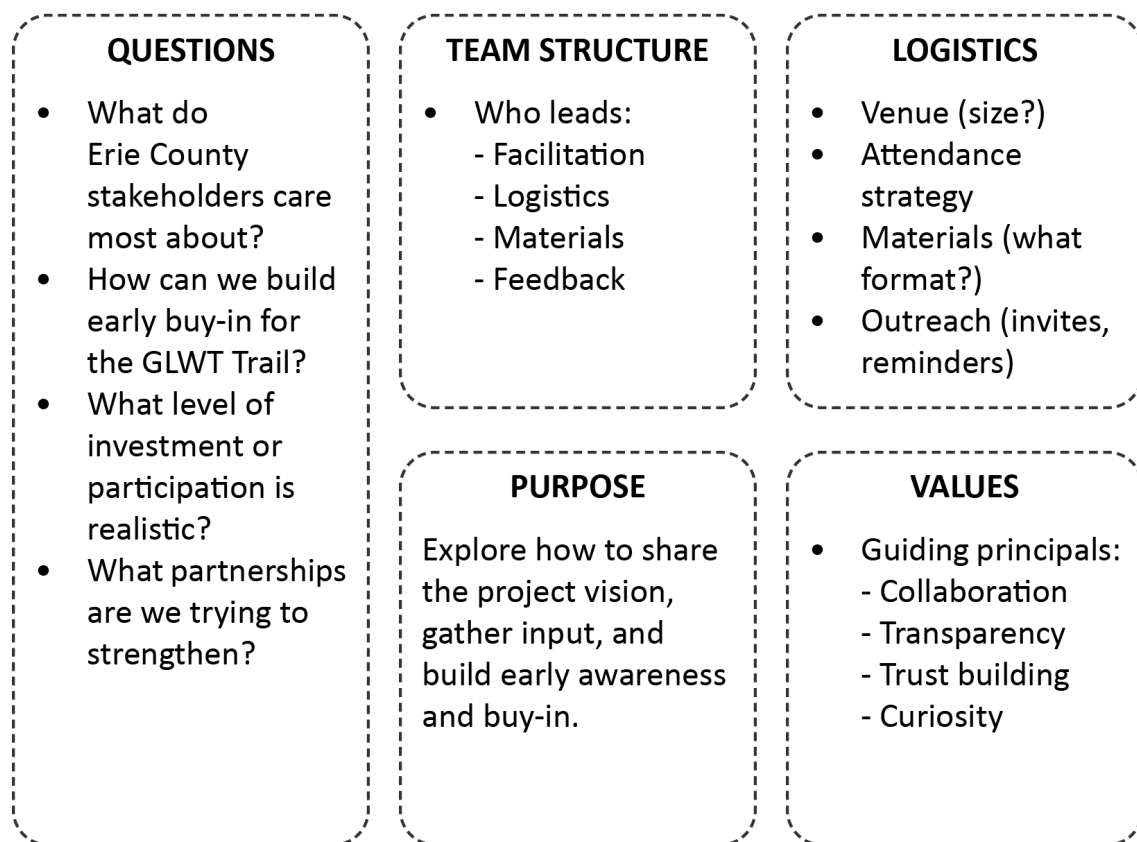
- Long-term GLWT impacts on region/state: ADA Accessibility (13), Greenspace and Water Access (12), and Equity and Inclusion (11)
- Short-term goals to be addressed in trail design: Access to trails (13), Greenspace and Water Access (12), and Equity and Inclusion (10)
- Primary concerns for these initiatives: coordination among many organizations/agencies (14), cost (12), capacity to implement (9)

Respondents are overall positive about the initiative, with all respondents indicating likelihood to incorporate GLWT guidelines to their own regions' trail designs. Other concerns and considerations mentioned include navigating around private property rights and lack of support from the current federal administration.

C.2 Event 1 - November 13, 2025

Building upon continuous data analysis and design work, the student team planned an in-person and virtual event for November 12 and 13, 2025 with Erie County stakeholders. Originally, the in-person event was intended to be the main focus with the virtual event planned for the few attendees who could not attend in-person. Due to last minute a winter storm advisory, the team shifted plans, rescheduling the in-person event to January. The November 13 virtual event became the main focus.

Figure 4.
Initial
Brainstorming for
Erie County Event
(November).
Created by Emily
Carra



Through the virtual event, the student team gained a better understanding of local perspectives on GLWT development in Erie County, and gathered feedback on the developed trail type and trail offshoots maps. Additionally, this event served as a pilot stakeholder engagement that can be referenced for future engagements in other GLWT regions.

The virtual event attracted participants from multiple levels and sectors, including federal agency representatives, state agency representatives, Erie County government departments, local government representatives, as well as non-profit organizations and community groups. The event was attended by approximately 20 virtual participants. The event was co-facilitated by team members and lasted 2 hours.

The student team collected valuable feedback from stakeholders on both the trail type and trail offshoots through this event. Participants expressed overall support for the project and provided suggestions regarding points of interest, how to think about trail type, and the feasibility of connection routes. There were some points of confusion over trail types and if participants had the right expertise to make trail type decisions. Some participants knew some regions of Erie County better than others and were also uncomfortable making notes on the unfamiliar spaces.

Stakeholders also expressed satisfaction with event proceedings, admiring the professionalism of materials and adaptability of the team to shift to a full virtual event. They found the deliverables useful and said that they looked forward to learning more at the January event.

C.3 Event 2 - January 28, 2026

On Jan 28, 2026, the student team held a second stakeholder event to test the decision tree and determine any other priorities from stakeholders. The student team adjusted the trail type system based on the feedback from November, reframing the January event to focus on usefulness to stakeholders. The second stakeholder event sought to gain insight on what was most useful for stakeholders.

At this event, the student team presented a decision tree (shown in the Trail Design Toolkit) to guide stakeholders through trail type selection. The decision tree is meant to reduce the mental burden on stakeholders when making trail decisions. Stakeholders were impressed with the materials and provided feedback on jargon like limited access.

To simplify the overwhelming amount of trail types, the team consolidated trail types to eight options. Moving forward from the event, the project team began to finalize the decision tree and build more design tools for the toolkit.