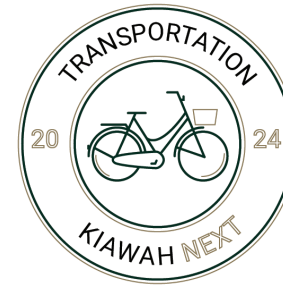


09



transportationnext

Provide safe mobility options for Kiawah residents, workers and guests.

Transportation

Considers transportation facilities, including major road improvements, new road construction, transit projects, pedestrian and bicycle projects, and other elements of a transportation network.

Big Ideas

*Traffic Mitigation & Safety Improvements
Regional Connections
Integrated Mobility Strategy*

Objectives

- T1 - Maintain the street network to provide safe and efficient routes.*
- T2 - Consider alternatives to address constraints of existing street network.*
- T3 - Promote safe, pleasant, and viable alternatives to vehicular on the Island.*
- T4 - Determine the need for shared transit options.*

Overview

Kiawah Island's road layout contributes to traffic management challenges. Most roads are privately owned, primarily by the Kiawah Island Community Association (KICA), while the Town maintains two public roads. The Island's extensive trail and bikeway network does not provide a practical alternative for most travel needs. Recent efforts by the Town have addressed some traffic concerns at the intersection of the main gate.

Regional connectivity is crucial, as almost all workers commute to Kiawah from outside the Town. The transportation element considers ongoing regional improvement projects and their impact on island accessibility. It sets objectives to maintain efficient routes, explore alternatives to existing constraints, promote viable transportation options, and assess shared transit needs. By addressing these aspects, the plan aims to enhance mobility for Kiawah's residents, workers, and guests while preserving the island's character.



Road Network

Kiawah Island has a unique road network structure. Most roads on the Island are privately owned, primarily by the Kiawah Island Community Association (KICA), which owns and maintains approximately 60 miles of roads. KICA’s engineering consultant assesses these roadways every 2-5 years to ensure proper maintenance.

The road network presents challenges, as only 16% of Kiawah’s minor roadways provide continuous travel options, concentrating vehicular congestion along major roadways. While the Town is not responsible for private road maintenance, it oversees the safety and welfare of citizens on all roads, requiring coordination with various entities to address traffic flow and congestion issues.

The Town is responsible for two roads outside the front security gate: Kiawah Island Parkway and Beachwalker Drive. The Parkway extends approximately 2 miles from Betsy Kerrison Parkway to the main gate. The Town also owns the roundabout that connects these parkways with Seabrook Island Parkway and the entrance

to the Freshfields shopping center, which was completed in 2005.

To address network challenges and maintain key access routes, the Town has made improvements to the Kiawah Island Parkway and Beachwalker Drive, which is explained later in this section.

Beachwalker Drive, just under a mile long, is also under the Town’s responsibility. It leads to the public beach access at Beachwalker County Park.



Trails and Bikeways

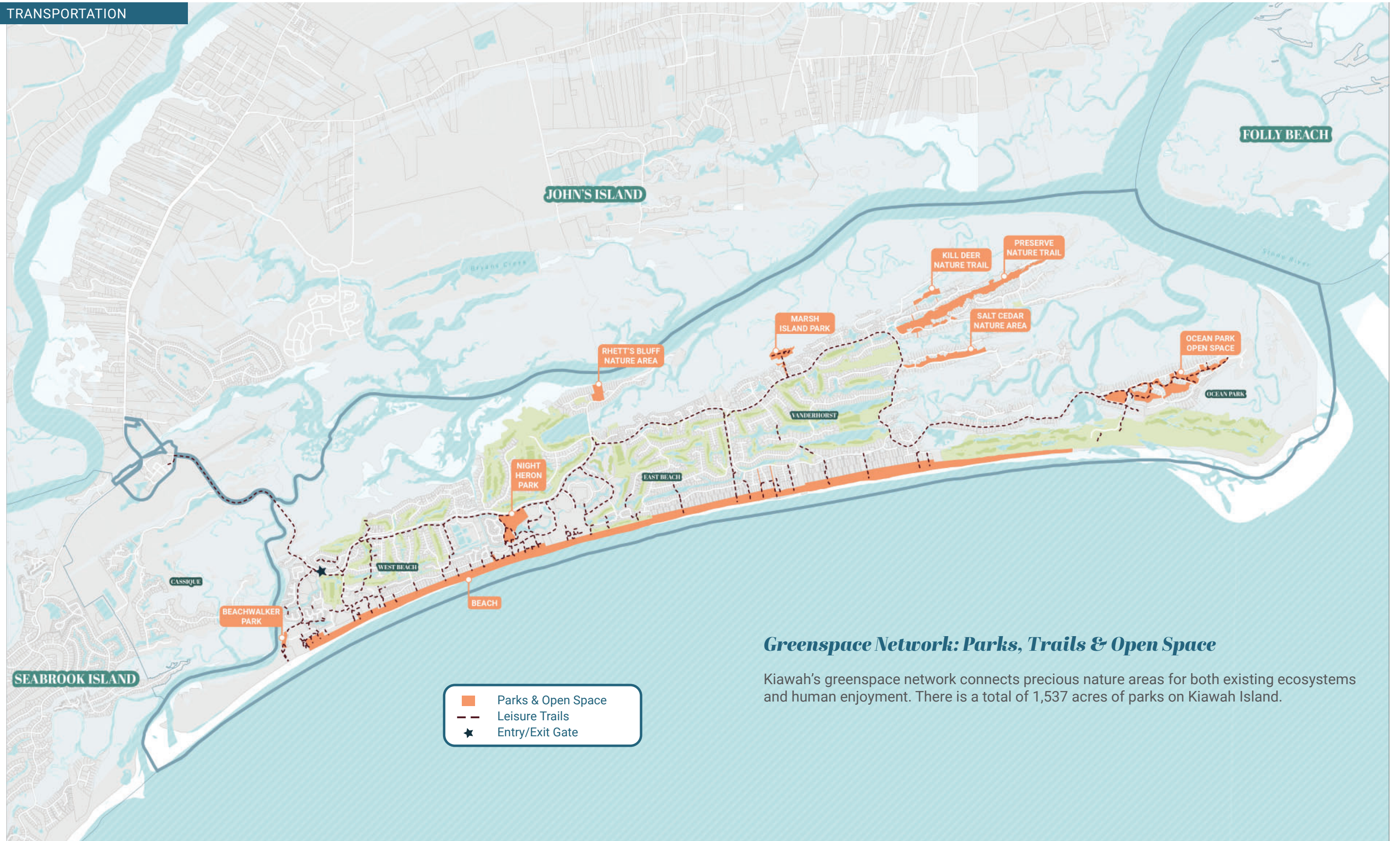
The Town of Kiawah Island recognizes the importance of a comprehensive leisure trail network in enhancing the quality of life for residents and visitors while promoting environmental appreciation and alternative transportation. The island’s trail system is designed to provide beach access for both public and private users of the Kiawah areas.

The Town of Kiawah Island owns and maintains approximately three miles of leisure trail from Beachwalker County Park to the Freshfields Village entrance. This trail provides a safe route for pedestrians and cyclists, connecting the public beach access at Beachwalker County Park to the island’s main entrance area. It is an important link to the island’s transportation and recreation network.

Behind the gate, KICA owns and maintains an extensive network of 19 miles of bike and pedestrian trails. These two systems connect, creating a seamless network spanning the island.

The comprehensive trail network on Kiawah

Island serves as a vital component of the island’s infrastructure, supporting multiple strategic objectives. It promotes alternative transportation methods, reducing vehicular traffic and associated environmental impacts. The trails facilitate active lifestyles and outdoor recreation, contributing to the health and well-being of residents and visitors alike. Furthermore, the network enhances connectivity across the island, linking residential areas, recreational facilities, and natural spaces. The trails also play a crucial role in environmental education and appreciation by providing access to the island’s diverse ecosystems. As Kiawah Island continues to develop, maintaining this trail system will remain a priority, ensuring that it continues to meet the community’s evolving needs while preserving the island’s natural beauty and ecological integrity.

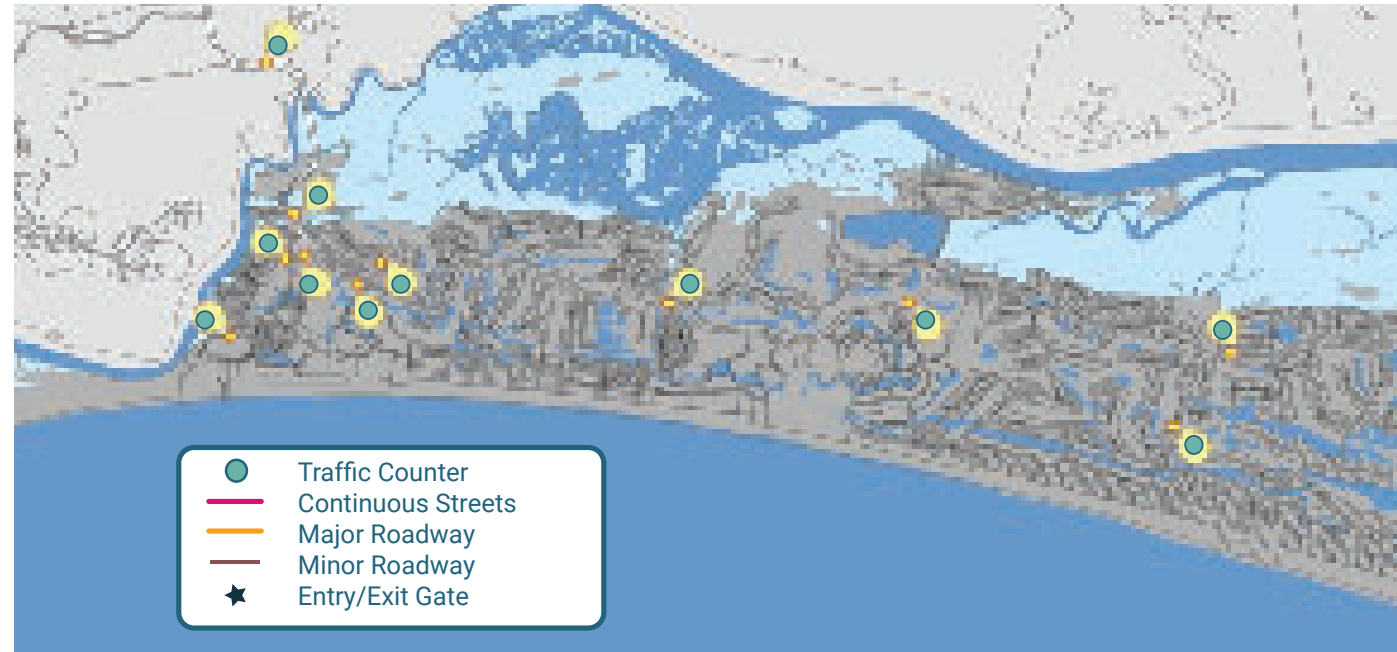


Greenspace Network: Parks, Trails & Open Space

Kiawah's greenspace network connects precious nature areas for both existing ecosystems and human enjoyment. There is a total of 1,537 acres of parks on Kiawah Island.

Traffic Counting Locations, Town of Kiawah Island, 2022

Source: Kiawah Island Parkway Traffic Update



Traffic Evaluation and Management

In 2023, KICA and the Town of Kiawah Island collaborated to address traffic concerns, focusing primarily on congestion at the Main Gate. Managed by KICA, the Main Gate experienced significant fluctuations in vehicle traffic over the past three years. In 2023, 2,269,320 vehicles passed through, an increase from 2,129,741 in 2022, but a decrease from 2,431,383 in 2021.

To alleviate congestion, several measures were implemented:

1. The Town stationed a community service officer at the Beachwalker Drive intersection to manage traffic flow during peak times.
2. Following a successful trial, the outbound stop sign at the Main Gate was removed, and the Beachwalker intersection traffic pattern was modified.

3. The Town completed improvements to the Beachwalker Drive/Kiawah Island Parkway intersection in the summer of 2024.

These changes significantly reduced inbound traffic backups and virtually eliminated outbound congestion at the Main Gate.

The Town continues to monitor traffic along key routes through comprehensive counts conducted by Quality Counts, LLC at Council-approved locations three times annually during peak season (June 1-14, July 8-22, and August 14-31). Traffic is evaluated using the Near Capacity Traffic Volume (NCTV) standard, which represents 70% of peak hour capacity:

- Kiawah Island Parkway: Peak Hour Capacity 1,900 VPH, Near Capacity Traffic Volume 1,330 VPH
- Kiawah River Bridge: Peak Hour Capacity

1,700 VPH, Near Capacity Traffic Volume
1,190 VPH

According to 2024 data, traffic volumes have remained relatively consistent to marginally increasing compared to previous years, typically reaching 60-65% of capacity with occasional one-day peaks above 70%. The highest recorded volumes were 792 VPH westbound in June (67% of NCTV), 828 VPH eastbound in July (70% of NCTV), and 721 VPH westbound in August (61% of NCTV). These volumes have not met or exceeded the near capacity thresholds for three consecutive days that would trigger required mitigation measures.

Looking toward the future, the Town commissioned the Kiawah Island Parkway Intersection and Corridor Study, completed in August 2022 by Kimley-Horn and Associates. This comprehensive analysis evaluates 13 key intersections along Kiawah Island Parkway, Betsy Kerrison Parkway, and Seabrook Island Road, projecting conditions through 2036.

Key short-term improvement recommendations include:

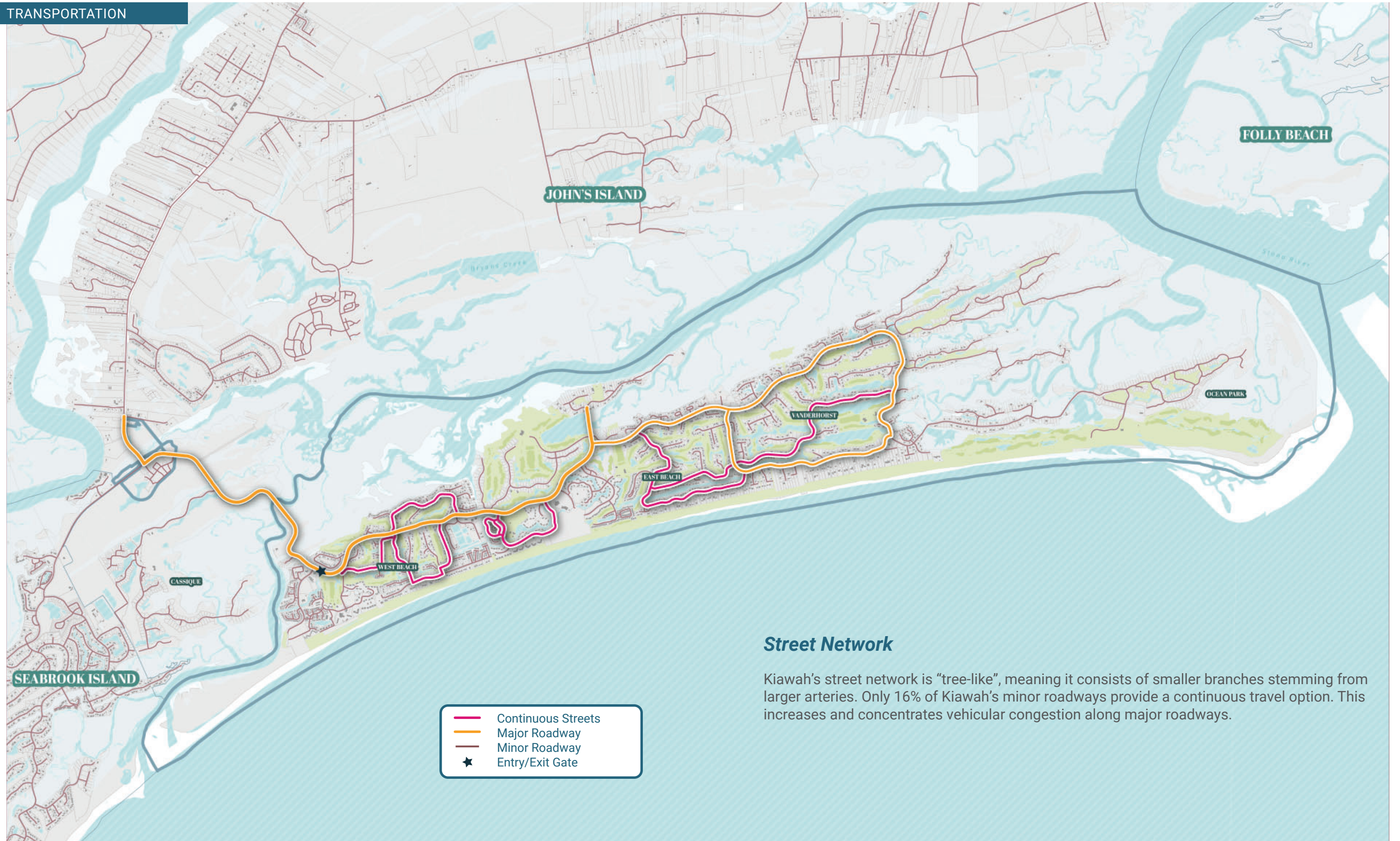
1. Kiawah Island Parkway at Beachwalker Drive: Creating a free-flow westbound through lane, channelized left-turn lane, and adding an eastbound right-turn lane.
2. Kiawah Island Parkway at Real Estate Office: Converting to right-in/right-out access with a connection from Beachwalker Drive.
3. Kiawah Island Parkway at Andell West Development: Installing a traffic signal to better serve long-term conditions.
4. Kiawah Island Parkway at Freshfields Drive: Creating an interconnection with Andell West Development and converting to right-in/right-out access.

For long-term improvements, the study recommends:

1. Installing a turbo roundabout at Kiawah Island Parkway/Seabrook Island Road and Betsy Kerrison Parkway with a pedestrian bridge across Haulover Creek
2. Adding an eastbound right-turn lane at Kiawah Island Parkway and Old Cedar Lane.
3. Constructing turn lanes at Betsy Kerrison Parkway and Camp Care Road/Lot A.
4. Considering a roundabout at Seabrook Island Road and Andell Bluff Boulevard when Lot C is developed.

These recommendations address current traffic needs while anticipating impacts from seven identified short-term developments and three potential long-term development sites, ensuring the Town's roadway network can accommodate future growth while maintaining acceptable service levels.

These comprehensive efforts underscore the Town's commitment to managing traffic flow, enhancing safety, and improving the overall transportation experience for Kiawah Island's residents and visitors.



Beachwalker Drive and Kiawah Island Parkway Improvements

The Town of Kiawah Island has implemented improvements to Beachwalker Drive and Kiawah Island Parkway in recent years, in an effort to mitigate traffic flow challenges. On Beachwalker Drive, the Town completed several improvements in 2021, including adding a stacking/right turn lane into Beachwalker County Park and expanding portions of the bike path to 8 feet wide. In August 2024, the Town secured a Charleston County Transportation Committee (CTC) grant to improve the upper part of the bike path, with these enhancements expected to be completed in 2025.

The Kiawah Island Parkway Intersection and Corridor Study, completed in August 2022 by Kimley-Horn, provided a comprehensive analysis of the Kiawah Island Parkway and Beachwalker Drive intersection. The study revealed operational challenges, with varying traffic patterns during AM and PM peak hours. Traffic count data from September 2021 showed AM peak hour volumes of 1,156 vehicles between 9:15 AM and 10:15 AM, with the heaviest eastbound flow of 599 vehicles during this period. The PM peak hour volumes reached 1,194 vehicles between 3:30 PM and 4:30 PM, with the heaviest westbound flow of 630 vehicles. The study projected potential failure of the westbound approach by 2026 due to anticipated increases in development traffic, particularly during PM peak hours, and the location of the front gate.

In response to the study's findings, the Town implemented a series of strategic modifications in 2024. At the intersection, the westbound through lane was converted to free-flow, and the westbound left-turn lane was channelized with stop sign control. These changes were designed to improve traffic flow, enhance pedestrian safety, and reduce peak-hour congestion. At the front gate, a new

landscape island was installed to enhance both aesthetics and traffic management. The entire area underwent restriping to create a merge lane, significantly improving traffic storage capacity. Although initial plans included adding a right turn lane, this improvement was not implemented due to complications with utility infrastructure and land acquisition requirements.

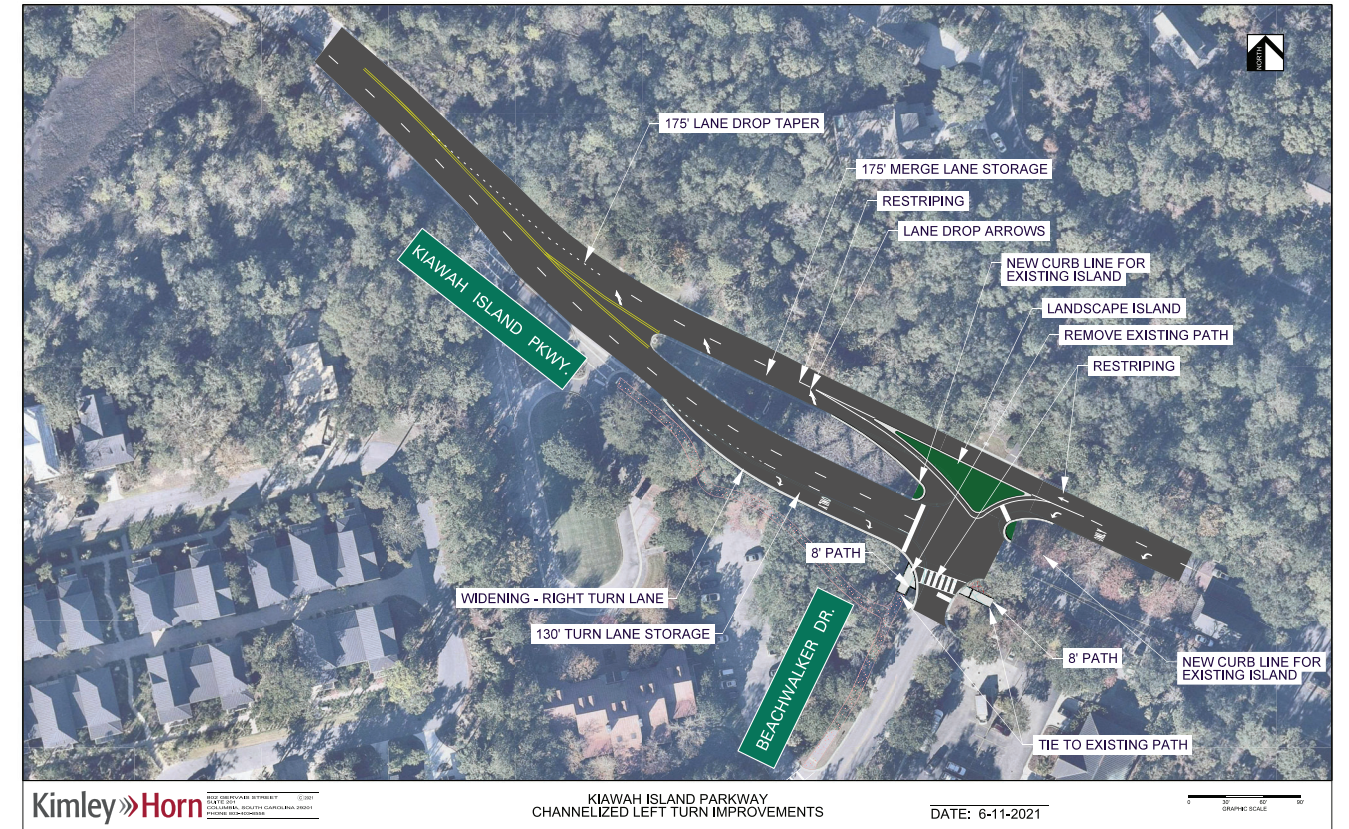
To further manage traffic flow, the Town has stationed a dedicated traffic control officer at the intersection during AM and PM peak times. These modifications are expected to help with delays at the intersection and improve overall traffic flow.

The Town of Kiawah Island remains committed to monitoring traffic patterns and evaluating potential improvements at the Beachwalker Drive and Kiawah Island Parkway intersection.

Kiawah Island Parkway and Kiawah Beach Drive Improvements

In December 2021, Kimley-Horn completed a study for the Kiawah Island Community Association (KICA) focusing on the intersection of Kiawah Island Parkway and Kiawah Beach Drive. This study aimed to improve safety and efficiency for all users, including drivers, pedestrians, and cyclists.

The study revealed several key findings. Observations showed vehicles often exceeding the speed limit. Areas with overgrown vegetation obstructed visibility, affecting drivers' ability to see pedestrians and cyclists. The study also projected traffic volumes in 2026, accounting for potential developments and an assumed annual traffic growth rate.



Kiawah Island Parkway Channelized Left Turn Improvements

Based on the traffic study findings, Kimley-Horn explored various design alternatives to improve traffic flow and safety at this intersection, necessitating a roundabout.

Additional recommendations included trimming overgrown vegetation to improve visibility at the intersection and implementing measures to better manage vehicle speeds and enhance pedestrian and cyclist safety.

Understanding the different ownership and jurisdictions of the roads is crucial when considering these improvements. Kiawah Island Parkway (KIP), from the roundabout at Freshfields to the front gate, is owned and maintained by the Town of Kiawah Island, making it a public road. In contrast, Kiawah Beach Drive (KBD) is owned and maintained

by KICA. This distinction in ownership and accessibility significantly impacts decision-making processes for road improvements, requiring coordination between the Town and KICA for comprehensive traffic management solutions.

Regional Connections

The condition of Johns Island roads is critical to Kiawah Island, serving as essential arteries for daily commutes. These routes serve workers and residents of all the Sea Islands (Kiawah, Seabrook, Johns, and Wadmalaw Islands). Contractors, sub-contractors, landscape and maintenance personnel, hospitality workers, and others rely on these routes. Census data reveals that nearly three-quarters of all workers on Kiawah Island travel more than 25 miles to reach their jobs, underscoring the need for safe, reliable routes extending well beyond the Town's jurisdiction.

These road networks are equally important for outbound travel, as Kiawah residents and visitors regularly journey to Charleston and other off-island destinations. The connection to area airports is particularly vital. Measured from the front gate on Kiawah Island, Charleston International Airport (CHS) is just over 30 miles away, while Charleston Executive Airport (JZI) is 14 miles away.

CHS has significantly expanded its services in recent years, with 13 carriers operating flights on 69 nonstop routes to various destinations across the country. This expansion has greatly enhanced connectivity for Kiawah Island residents and visitors.

JZI serves as a convenient alternative for private and corporate aviation needs. The airport features two runways, ample hangar space, and services tailored to general aviation. JZI plays a role for residents and visitors who prefer the flexibility and convenience of private air travel. It is equipped with facilities to accommodate a range of aircraft, from small private planes to larger corporate jets. The airport's proximity to Kiawah Island makes it an attractive option for those seeking quick and efficient access to the island.

Multiple transportation options are available to reach Kiawah Island. In addition to personal vehicles, visitors and residents can utilize rideshare services and alternative transportation methods. Notably, Uber has secured an access agreement through the gates with KICA, facilitating easier access to the island.

The importance of these regional connections highlights the need for ongoing collaboration between Kiawah Island and surrounding communities. This collaboration is essential to ensure safe, efficient transportation infrastructure that meets the needs of residents, workers, and visitors alike. As the region continues to grow and evolve, maintaining and improving these connections will be crucial for Kiawah Island's continued accessibility and prosperity.

Main Road & US 17 Improvements

The Main Road Corridor improvements project addresses growing traffic congestion in western West Ashley and Johns Island. This critical infrastructure initiative will reduce congestion at the US 17 and Main Road intersection, increase vehicular capacity, improve safety throughout the corridor, and provide efficient access to local commercial and residential properties. The project also enhances bicycle and pedestrian facilities, improves stormwater drainage, and creates a safer route for emergency evacuations, addressing multiple community needs while supporting the area's continued growth.

Charleston County is currently focusing on Segment A of the Main Road Corridor project. This segment includes directional interchange



Source: "Progress on preserving trees, but we're not out of the woods", *The Post and Courier*

flyover ramps from US 17 to Main Road, a spur bridge over US 17, extensive roadway widening, and a roundabout at Main and River Roads. Recent design modifications have improved access along US 17 while minimizing impacts on planned water infrastructure. The project is scheduled for completion in September 2028. Construction will begin in the second quarter of 2025. Segment B remains inactive, and although the project team began refining Segment C plans in May 2024, no substantive progress has been made on that portion.

Impact on Kiawah Island

While not directly on Kiawah Island, these improvements will significantly benefit island residents, workers, and visitors. The enhanced main arteries leading to the island will reduce travel times during peak traffic periods, improve safety along key access routes, provide more reliable access during daily commutes and emergencies, and support the growing number of residents and visitors traveling to and from the island. The completion of Segment A will particularly improve the experience of accessing Kiawah from the Charleston area, making the journey more predictable and less stressful.

Looking Forward

As the project progresses, Kiawah Island stakeholders must stay informed and engaged. The Town of Kiawah Island will continue to monitor the construction timeline and communicate any significant impacts to residents. By remaining involved in regional transportation planning, Kiawah Island can ensure its interests are represented as the broader transportation network evolves.

Road Conditions and Land Use

Kiawah Island's unique geography and development pattern presents distinct challenges and opportunities for integrating transportation and land use planning. As a barrier island with limited access points and a fragile ecosystem, Kiawah requires thoughtful strategies that balance accessibility, environmental preservation, and quality of life for residents and visitors. The following sections outline a comprehensive approach to roads and land use integration, addressing current challenges and future needs while preserving the island's character. These strategies aim to optimize traffic flow, enhance mobility options, and align transportation infrastructure with sustainable land use practices, ensuring Kiawah Island's long-term vitality and resilience.

1. Current Transportation Landscape

Kiawah Island's transportation infrastructure is characterized by limited access points, which presents unique challenges for traffic management. The island is served by Kiawah Island Parkway, the main artery connecting the island to the mainland. Beachwalker Drive, branching off from the Parkway, provides sole access to the island's public beach. This limited road network creates a bottleneck effect, particularly during peak tourist seasons and morning and afternoon when contractors are coming on or leaving the island.

2. Traffic Flow Optimization

Addressing the island's traffic congestion requires a multi-faceted approach. Implementing turbo or normal roundabouts at key intersections along Kiawah Island Parkway can help regulate traffic flow more efficiently. Additionally, developing a real-time traffic monitoring system for the

Parkway would provide valuable data for planners and residents, allowing for more informed decision-making.

3. Main Gate

The intersection of Kiawah Island Parkway and Beachwalker Drive is a critical juncture that often experiences heavy congestion. Relocating KICA's gate office to a more suitable location could help reduce traffic back up at the intersection of Kiawah Island Parkway and Beachwalker Drive. Any redesign should consider not only vehicular traffic but also accommodate pedestrians' and cyclists' safety.

4. Public Beach Access

Managing access to the public beach is crucial for mitigating traffic issues. While Charleston County Park has implemented a reservation system for public beach parking during peak seasons, more parking management ideas, such as implementing a smart parking system, should be explored.

5. Alternative Transportation Promotion

An island-wide electric shuttle system could provide an eco-friendly alternative for getting around the island, reducing the number of car trips residents and visitors make. The Town of Kiawah Island would own and operate this service.

6. Infrastructure Resilience

Identifying and protecting critical road infrastructure against environmental threats, such as flooding and erosion, is crucial for maintaining access to the island.

7. Technology Integration for Traffic Management

Leveraging technology can greatly enhance traffic management efforts. Developing a Kiawah Island traffic app to provide real-

time updates can help residents and visitors plan their trips to avoid peak congestion. Technological solutions should be user-friendly and widely promoted to ensure maximum adoption and effectiveness.

8. Seasonal and KICA Traffic Management Strategies

Develop a comprehensive traffic management plan to address Kiawah Island's significant seasonal variations and daily congestion. KICA should implement staggered check-ins for visitors and guests during peak times. This includes managing Saturday short-term guest passes through the main gate. By adopting these flexible strategies, the island can work towards improving traffic flow year-round, aiming better to accommodate both peak tourist seasons and off-season patterns.

9. Regional Coordination and Long-Term Planning

Traffic issues on Kiawah Island are not isolated and require coordination with neighboring areas. Working with Charleston County to improve road conditions leading to Kiawah Island can help manage traffic before it reaches the island. Coordinating with Seabrook Island on shared traffic management strategies can lead to more comprehensive solutions. Conduct regular traffic studies for long-term planning to inform future land use decisions.

10. Golf Cart Path Network Integration

Explore opportunities to utilize the extensive golf cart path network throughout Kiawah Island as an alternative transportation system during peak traffic periods or emergencies. This approach would create additional evacuation routes and reduce main road congestion while requiring minimal new infrastructure since the cart path network already exists.

11. Kiawah Island Parkway Enhancement and Resiliency

Consider improvements to the Kiawah Island Parkway, the main artery leading to the front gate, focusing on capacity and resilience. Prioritize enhancing the parkway's resilience to environmental factors such as flooding and sea-level rise. This could involve raising the elevation of the parkway leading to the first gate, incorporating permeable surfaces, and improving drainage systems. These measures would help ensure continued access to the island during extreme weather events while potentially alleviating traffic issues through improved road conditions. While widening the road could accommodate increased traffic flow, it would be a costly endeavor requiring bridge expansion and state regulatory approvals, making it a less favorable option.

12. Evacuation Planning

Develop and implement a reverse lane operations plan for emergency evacuations on Kiawah Island Parkway. This would allow for more efficient outbound traffic flow during emergencies by temporarily converting inbound to outbound lanes. Regular drills and simulations should be conducted to ensure the effectiveness of this plan and familiarize residents with evacuation procedures.



transportation objectives and strategies

GOAL:

Reduce congestion and improve traffic efficiency.

Objective T1

Improve regional connectivity and access to Kiawah Island.

Strategy T1.1

Actively participate in regional transportation planning efforts, particularly those affecting Johns Island and routes to Charleston.

Strategy T1.2

Advocate for improvements to the Main Road Corridor Project.

Strategy T1.3

The Town will explore the potential for water-based transportation options, such as ferry services, to diversify access routes to the island.

Objective T2

Enhance transportation infrastructure resilience and sustainability.

Strategy T2.1

Develop and implement a comprehensive maintenance and improvement plan for Kiawah Island Parkway that incorporates resilient design features, such as elevated roadways, improved drainage systems, and sustainable materials to withstand flooding and severe weather events.

Objective T3

Improve Kiawah Island's transportation network through data-driven planning and strategic improvements to meet current and future community mobility, safety, and sustainability needs.

Strategy T3.1

Regularly conduct traffic studies and analyze intersection capacity along critical routes, focusing on key areas like the KICA front gate and major intersections. Consider current conditions, 5-year projections, and 15-year forecasts to identify congestion points and safety hazards.

Objective T4

Develop and implement shared transit solutions to reduce individual vehicle usage and enhance sustainable mobility on Kiawah Island.

Strategy T4.1

Conduct a feasibility study for implementing a shared transit system, such as electric shuttles or on-demand services, focusing on key routes and destinations within the island.

Strategy T4.2

Design and launch a pilot program for a shared transit service, evaluating its effectiveness in reducing traffic congestion and improving mobility for residents and visitors.



transportation objectives and strategies

GOAL:

Reduce congestion and improve traffic efficiency.

Objective T5

Address Long-term Viability of KICA Main Gate Location.

Strategy T5.1

KICA should evaluate Main Gate Improvements.

- Commission a comprehensive study to assess alternative locations and configurations for KICA's main gate and reduce cycle time for vehicles at the main gate (e.g., require reservation and QR code).
- Analyze traffic patterns, safety concerns, and future growth projections to inform gate relocation options.
- Evaluate the feasibility of a roundabout or other traffic control solutions at the current gate location.

Strategy T5.2

Plan for future gate modifications

- Develop a phased implementation plan for potential gate relocation or reconfiguration.
- Identify funding mechanisms and partnerships for gate improvements.
- Create interim traffic management solutions while long-term changes are evaluated.