Let's Go!

NICE Bus

A multi year transit vision for Nassau County

NASSAU COUNTY
LONG ISLAND

Let's Go!

Transit, more than ever, is the engine to economic development. Communities that invest in their transit systems have the foundation for growth in place. But it takes a coordinated, well executed vision to begin and sustain the process.

In order to achieve larger goals in Nassau county, transit must evolve from a bare-bones network into a truly 21st century suite of services. In a competitive world, Nassau County has to keep the employers we already have, lure new employers to Nassau, and provide an attractive draw to new residents, many of whom want to untether themselves from the car.

A missing ingredient to creating a truly 21st century transit system is a reliable funding and predictable funding base that can grow as Nassau County's transportation needs grow. The economic base for transit in Nassau has resembled a roller coaster ride, rising slowly, then falling dramatically. Planning and executing effective new services, as well as sustaining and improving the ones we have, absolutely depends on getting off that roller coaster.

Over the next few months, NICE will ask for public input in shaping Let's Go – a Vision for Transit in Nassau County. In the meantime, NICE is working with local, state and federal officials to ensure we promote the need for additional resources so we can continue to serve Nassau County with innovative, safe and reliable transportation.

Michael Setzer – CEO NICE Bus

How Transit Benefits Everyone

The American Public Transportation Association has determined that for every $1 spent to provide public transit, the city, county or region served gets back $4 in tangible economic benefits. These include increase sales, employment, and taxes.

For public transit to fulfill its mission and achieve benefits for customers and the community at large, service must be frequent, reliable, and flexible to meet every changing travel needs. It must also take advantage of rapidly advancing technology such as clean fuels, app-based information and fare payment; and on-demand travel.

Across the U.S., cities, counties and regions are increasingly reinvesting and expanding their investment in public transportation. Economic vitality and competitiveness are among the reasons, whether to provide additional transportation capacity, to offer a more reliable means of getting around, or to provide access to jobs and opportunities for residents and businesses.

Seattle

Expanded transit system is forecast to result in:
300,000 fewer cars on the road daily.
$2,000/year/household savings in commuting costs.
1.7 million fewer metric tons of greenhouse gases.
20% savings in travel time.

Denver

The *Fast Tracks* expansion program has already generated 28,200 construction jobs and is projected to reduce rush hour congestion by 25%.

Cleveland

The Health Line bus rapid transit project has generated:
1:114 economic rate of return
30% improvement in travel speed
48% more riders
$62 million/year in local taxes
13,000 new jobs

Nashville

The *nMotion* regional transit plan projects over 10 years:
+ 43% ridership increase.
+70% increase in jobs served.
+231% increase in service to low income persons.
+20-41% increase in access to frequent service.

Richmond

The investment in high frequency transit is expected to result in:
+ 170% ridership increase.
+ 500% increase in residents near frequent transit.
+ 183% increase in jobs near frequent transit.

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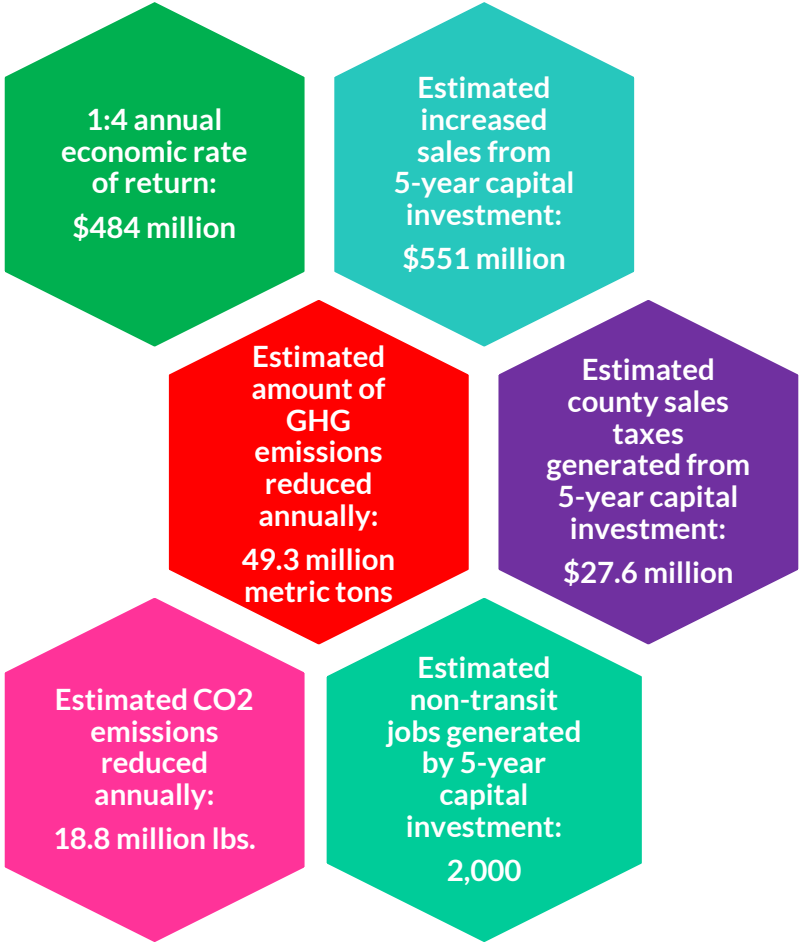
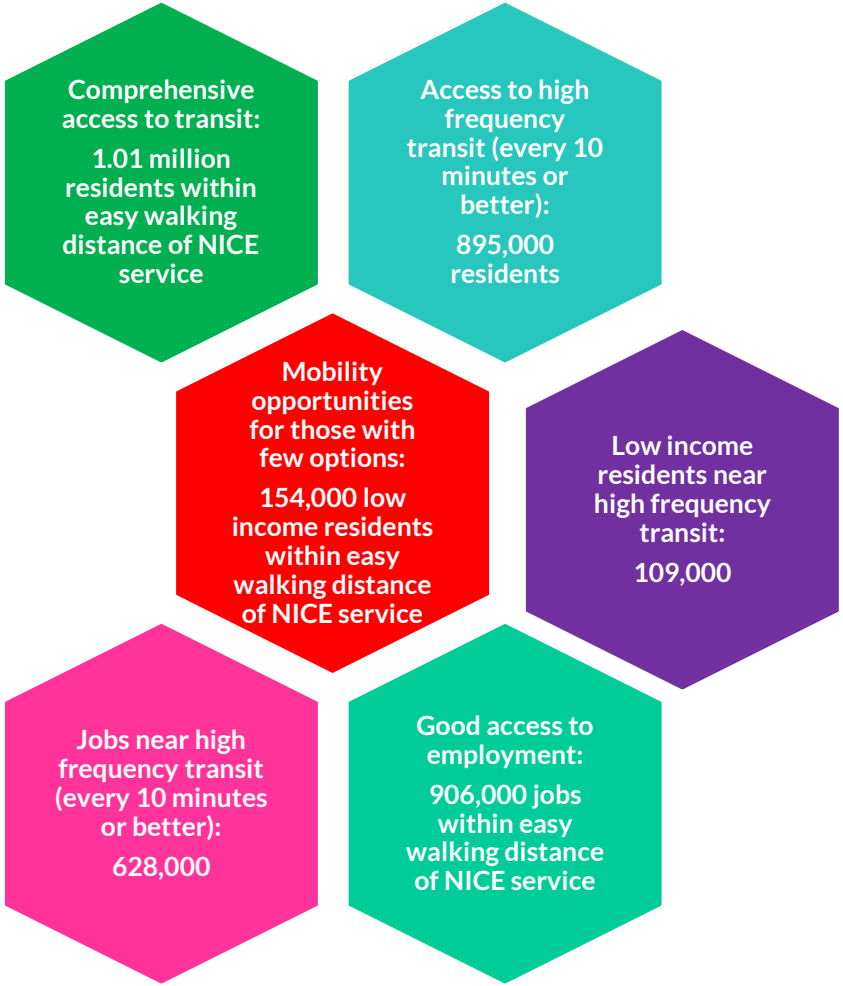


How Nassau County **benefits** from transit

Estimates derived from "Economic Impact of Public Transit Investment," American Public Transit Association (APTA), 2014; "Job Impacts of Spending on Public Transportation," APTA, 2009; "Recommended Practice for Quantifying Greenhouse Gas Emissions from Transit," APTA, 2008; "National Economic Impacts per $1 Million Household Expenditures-Spreadsheet Based on IMPLAN Input-Output Model, APTA and Jack Faucett Associates, 2008 "Traveler Response to Transportation Changes," Transportation Research Board (TRB), 2008.

How Residents of Nassau County **benefit** from NICE Bus



Goals

For Expanded Nassau County Transit Access

- More Convenient
- More Hours
- More Options
- Less Waiting
- Greater Coverage
- More Inviting
- Easier to Use

Vision

For Expanded Nassau County Transit Access

- More Frequent Service
- Additional Express Service
- New Express to Manhattan
- Extended Evening Service
- Expanded Late Night Hours
- More Weekend Service
- New Community Shuttles
- Countywide Able-Ride Coverage
- Better Customer Infrastructure
- Latest Technology & Innovation

Increased
Service
Frequency

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More Frequent Service

To attract riders keep them using transit, **frequency is the key**.

Frequent service is defined as any route with buses that are scheduled to arrive every **10 minutes or less in the peak** morning and evening hours and at least **every 15 minutes when demand is lower**.

By transforming all its major routes into frequent service, residents will be able to easily and conveniently move through the County. Frequent service not only means more trips, it means **less waiting time at bus stops**.

Making service convenient and predictable will help to increase ridership and improve the customer experience. Increasing frequency is also the engine to more opportunities like education, job training, and employment centers. Transit oriented development is also dependent on frequent, dependable service. Businesses will expand only if the service and infrastructure are in place to ensure employees can easily and dependably rely on public transportation.

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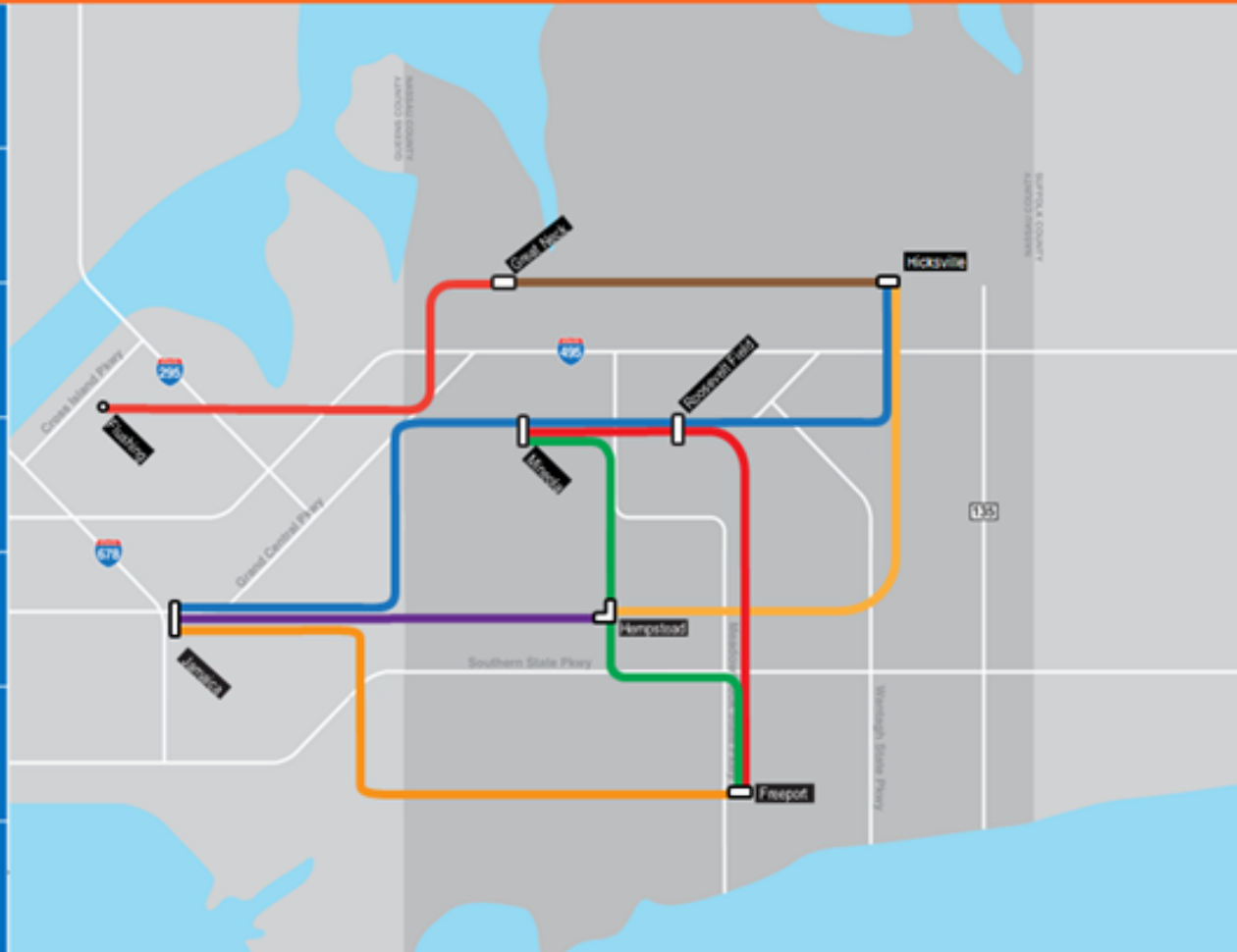
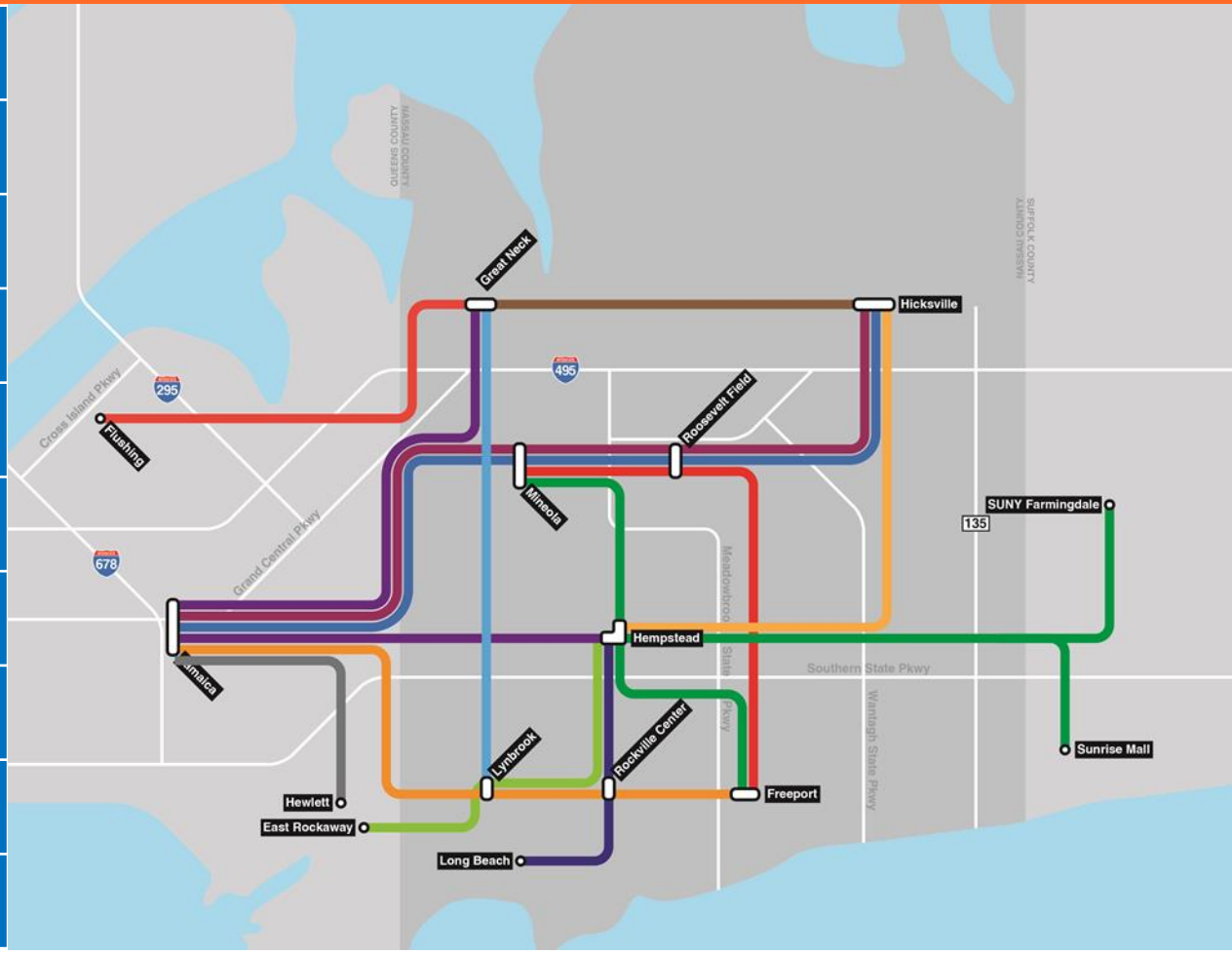
Current Frequency Network

- *n4* Freeport- Jamaica
- *n6* Hempstead - Jamaica
- *n20H* Hicksville –Great Neck
- *n20G* Great Neck-Flushing
- *n22* Hicksville - Jamaica
- n40/41 Freeport-Mineola
- n48/49 Hempstead-Hicksville



New Frequent Service Network

- ***n1*** **Hewlett - Elmont**
- ***n4*** **Freeport-Jamaica**
- ***n6*** **Hempstead - Jamaica**
- ***n22*** **Hicksville - Jamaica**
- ***n24*** **Hicksville - Jamaica**
- ***n26*** **Great Neck - Jamaica**
- ***n31/32*** **Hempstead– Far Rockaway**
- ***n43*** **Freeport– Roosevelt Field**
- ***n48/49*** **Hempstead– Jericho Quad**
- ***n70/71/72*** **Hempstead - Farmingdale**



Additional
Express Service

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Additional Express Service

Along with frequency, **fast service is essential**. The need for faster, direct bus service continues to grow. As Nassau County adds jobs, more residents will look for ways to commute as efficiently as possible. Express service would provide faster trips between transit centers, employment hubs, colleges, hospitals, shopping, and entertainment centers. By limiting the number of stops and leveraging technology such as signal prioritization, **express buses can reduce trip times by up to 20%**. Quicker travel alternatives will help Nassau County to continue to move forward.

While there is still a great need for local service, express service provides a faster and smoother trip for customers making longer trips. Express service would run every 5 – 10 minutes during peak periods and every 15- 20 minutes during off peak times.

Currently, only the N6 & N4 feature express service. NICE would add new express service on to the N16, N22, N20 & N24. NICE would also add new express service on Saturday and Sunday. Additionally, NICE would create a new express route connecting Mineola LIRR with the new Coliseum Hub Project.

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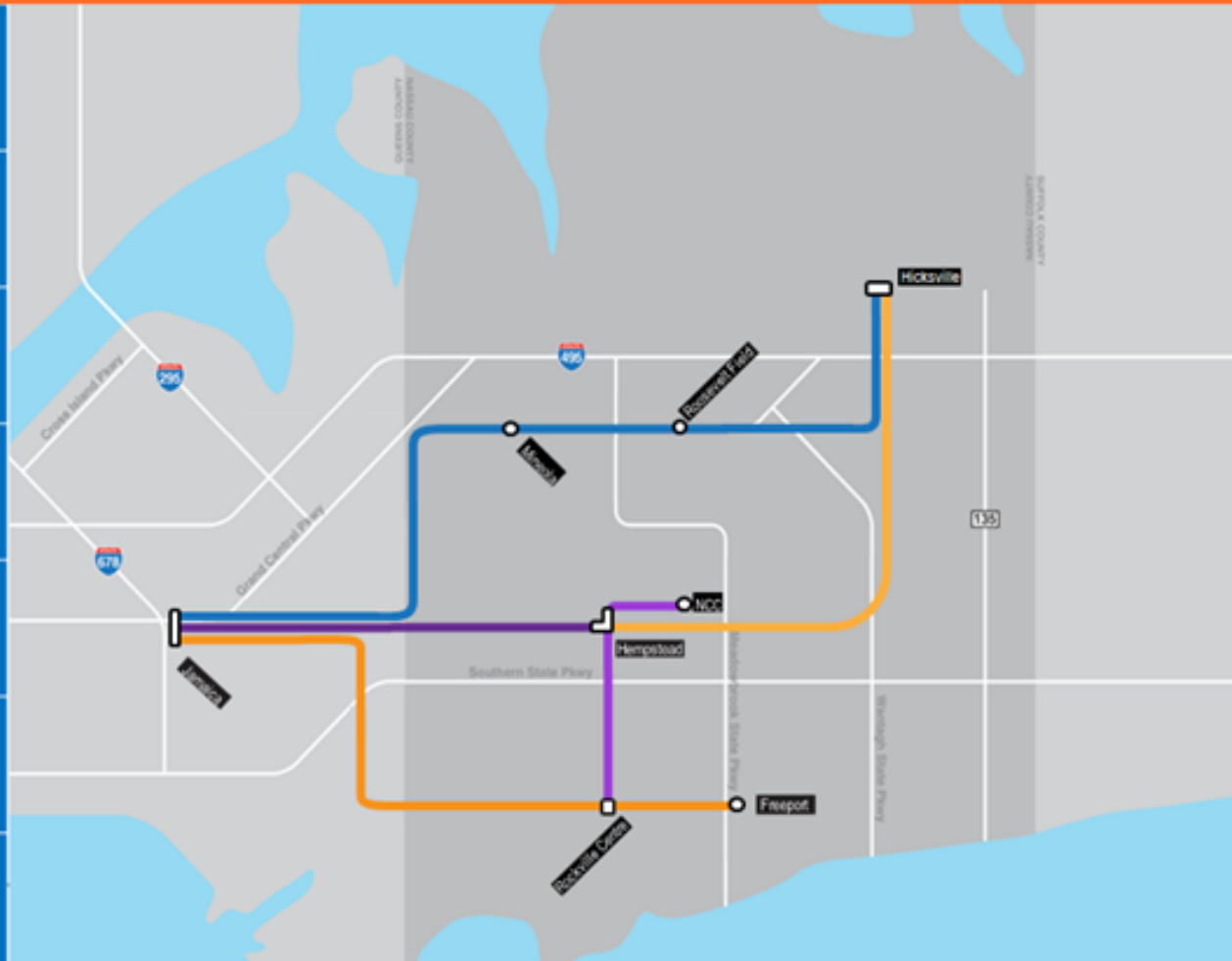
Current Express Network

n4X Freeport- Jamaica

n6X Hempstead - Jamaica

n16X Hempstead -NCC

n22X Hicksville - Jamaica



New Express Network

n4X Freeport- Jamaica

n6X Hempstead - Jamaica

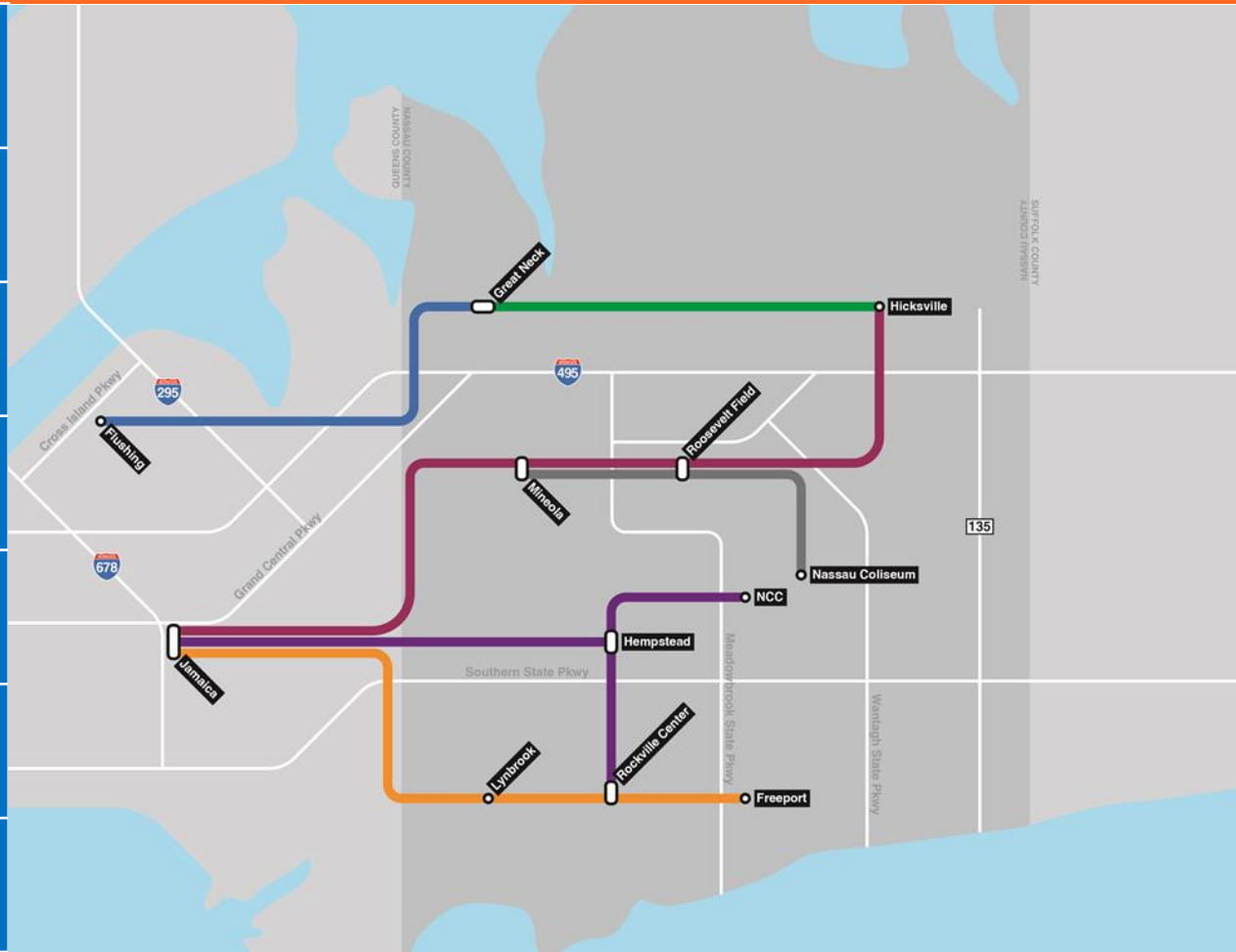
n16X Hempstead -NCC

n20X Hicksville -Flushing

n22X Hicksville - Jamaica

n24X Hicksville - Jamaica

HUBX Mineola - Coliseum



Manhattan
Direct Express

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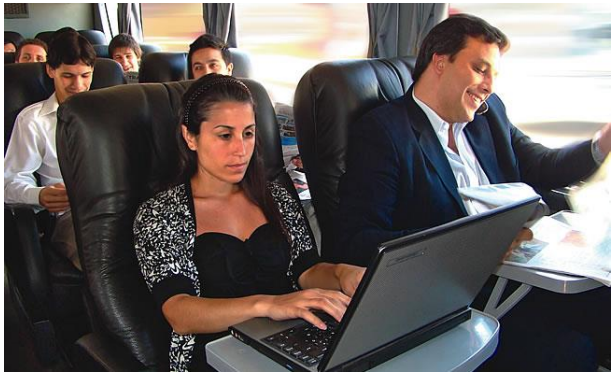
Manhattan Direct Express

Nassau is the only Metro area bus system that does not directly serve Manhattan. During the time of increased reliability issues with LIRR and additional auto traffic heading into the city, **Nassau County should support commuters with high-speed, direct service to midtown near Grand Central Terminal**.

A train trip from Nassau County to downtown Manhattan means transferring at Penn Station to one or more subway lines. **Nassau County should provide direct service to downtown near Wall Street**.

Manhattan Direct will use coach service - a different kind of bus unlike other traditional intra-county service. Trips will start at strategically-placed park & ride lots in Levittown, Hicksville and Mineola. After making a few more local stops, buses will use the Long Island Expressway HOV lane to Manhattan. A premium fare will be charged – above traditional bus fare but below train fare. Manhattan Direct Service would be fed by local bus routes and community shuttles. Coaches have padded seats, Wi-Fi, & charging stations. Seats can to be reserved via smart phone app.



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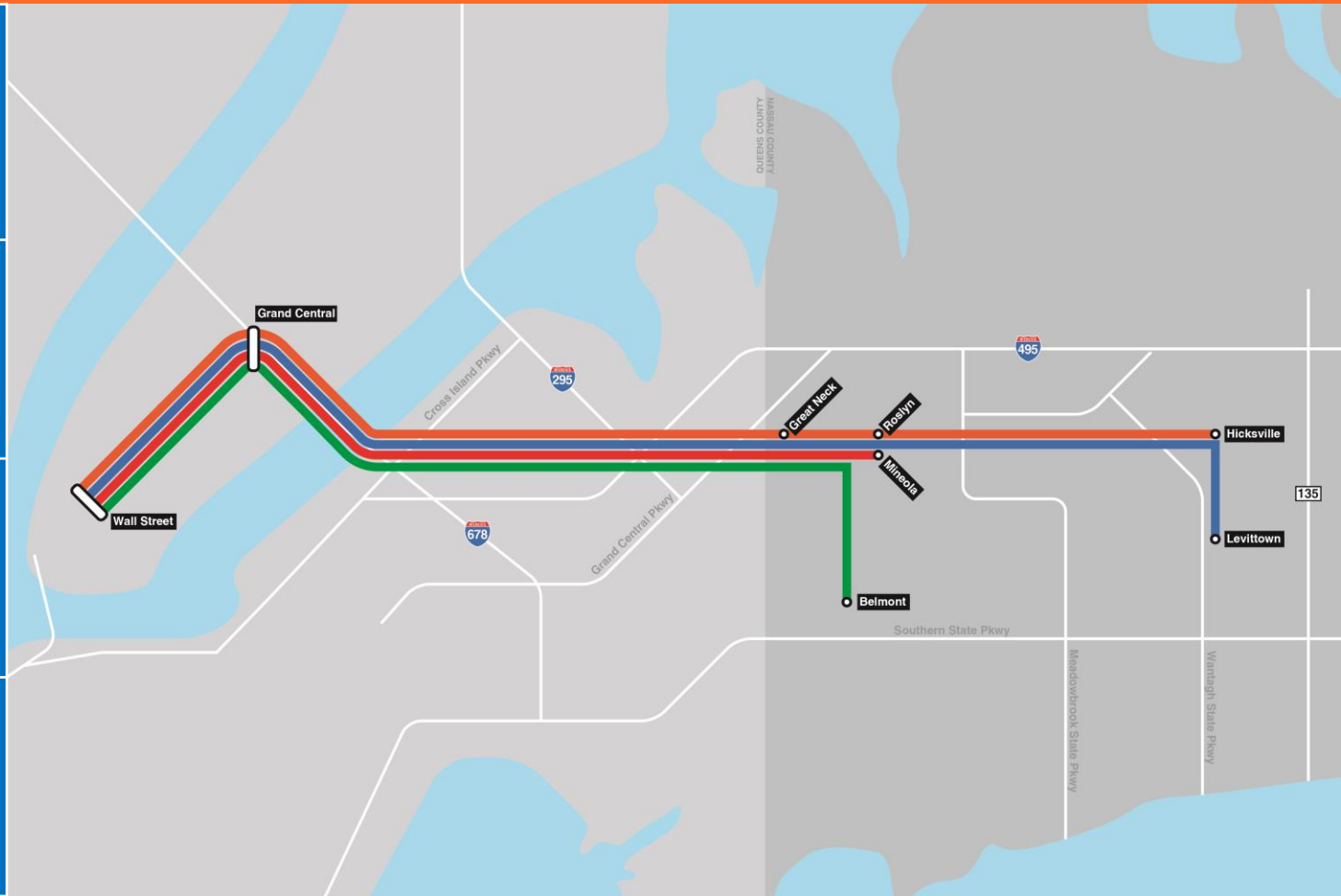
Manhattan Direct Express Network

MDX
Hicksville– Roslyn & Great Neck

MDX
Levittown - Manhattan

MDX
Mineola - Manhattan

MDX
Belmont - Manhattan



Extended
Evening & Late Night Hours

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Extended Evening and Late Night Hours

NICE has seen a growing trend in peak evening ridership. Evening peak hour commutes have extended later in the evening. Traditionally, evening peak service ended at approximately 7:00 PM. But today, **we see a growing demand for frequent service well past 9:00 PM** with some routes even requiring overnight service. Increased employment in the service and medical aid sectors appear to be a contributing factor.

To meet this increasing demand, NICE would need to extend peak hour service past its traditional “rush hour” period into late evening and overnight hours on 11 key routes.

Expanded hours would support our residents who work non-traditional hours, riders who take evening classes, and customers who use public transit to reach entertainment venues.

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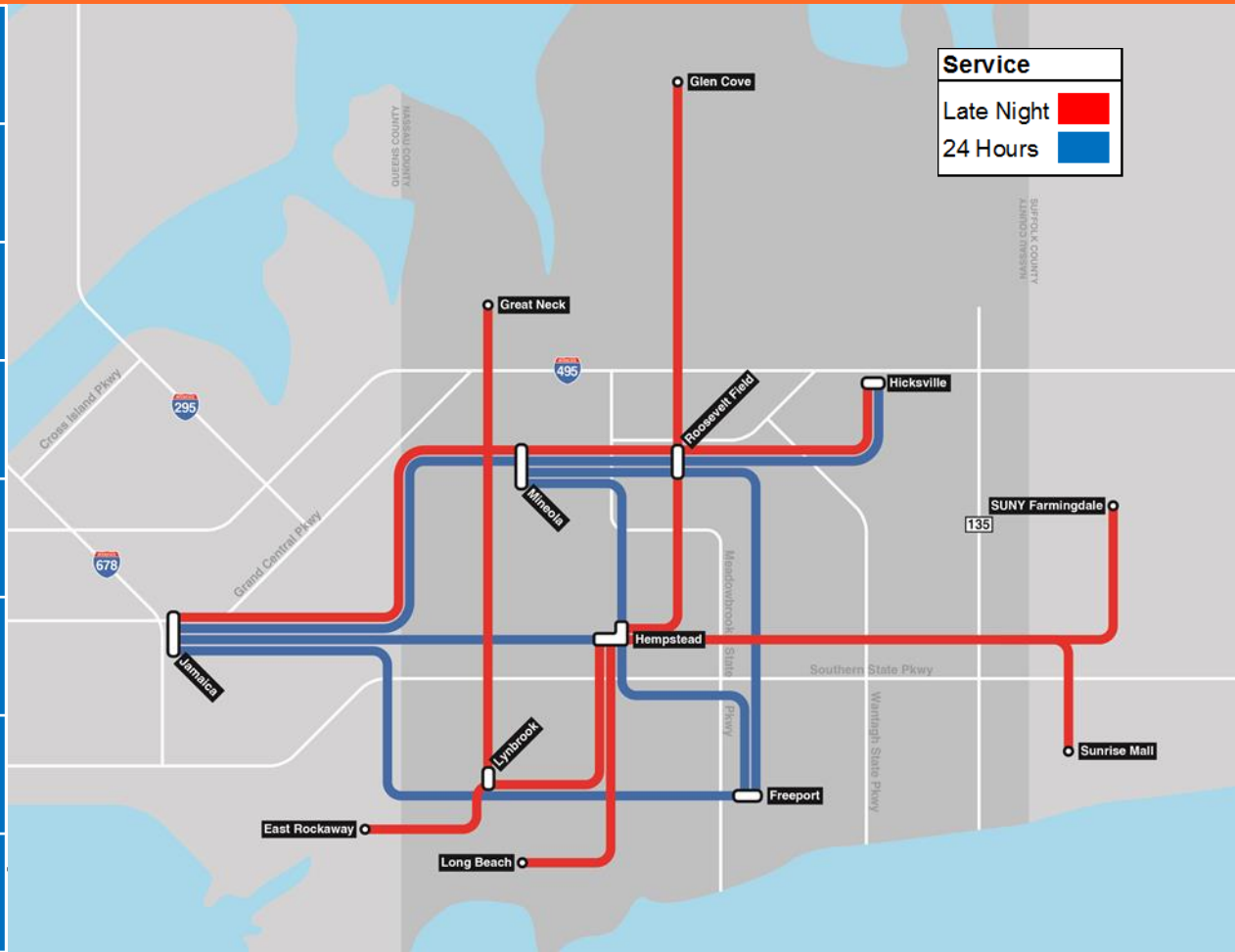
Evening & Late Night Network

- ***n1*** **Hewlett - Elmont**
- ***n4*** **Freeport-Jamaica**
- ***n22*** **Hicksville - Jamaica**
- ***n24*** **Hicksville - Jamaica**
- ***n26*** **Great Neck - Jamaica**
- ***n40/41*** **Freeport - Mineola**
- ***n43*** **Freeport– Roosevelt Field**
- ***n70/71/72*** **Hempstead - Farmingdale**



Additional Weekend Service

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Additional Weekend Service

Weekend service continues to experience ridership across the NICE system. To alleviate overcrowded buses and support the residents of Nassau County, NICE would **increase the number of trips and extend hours on Saturday and Sunday service**. And for the first time, **express service will be provided on key routes on weekends**.

Connecting shopping and entertainment centers, sporting venues, and transit hubs with extended hours for those Nassau County residents that work on the weekends, would help create a transit system that supports different needs and lifestyles beyond just a weekday commuter service.

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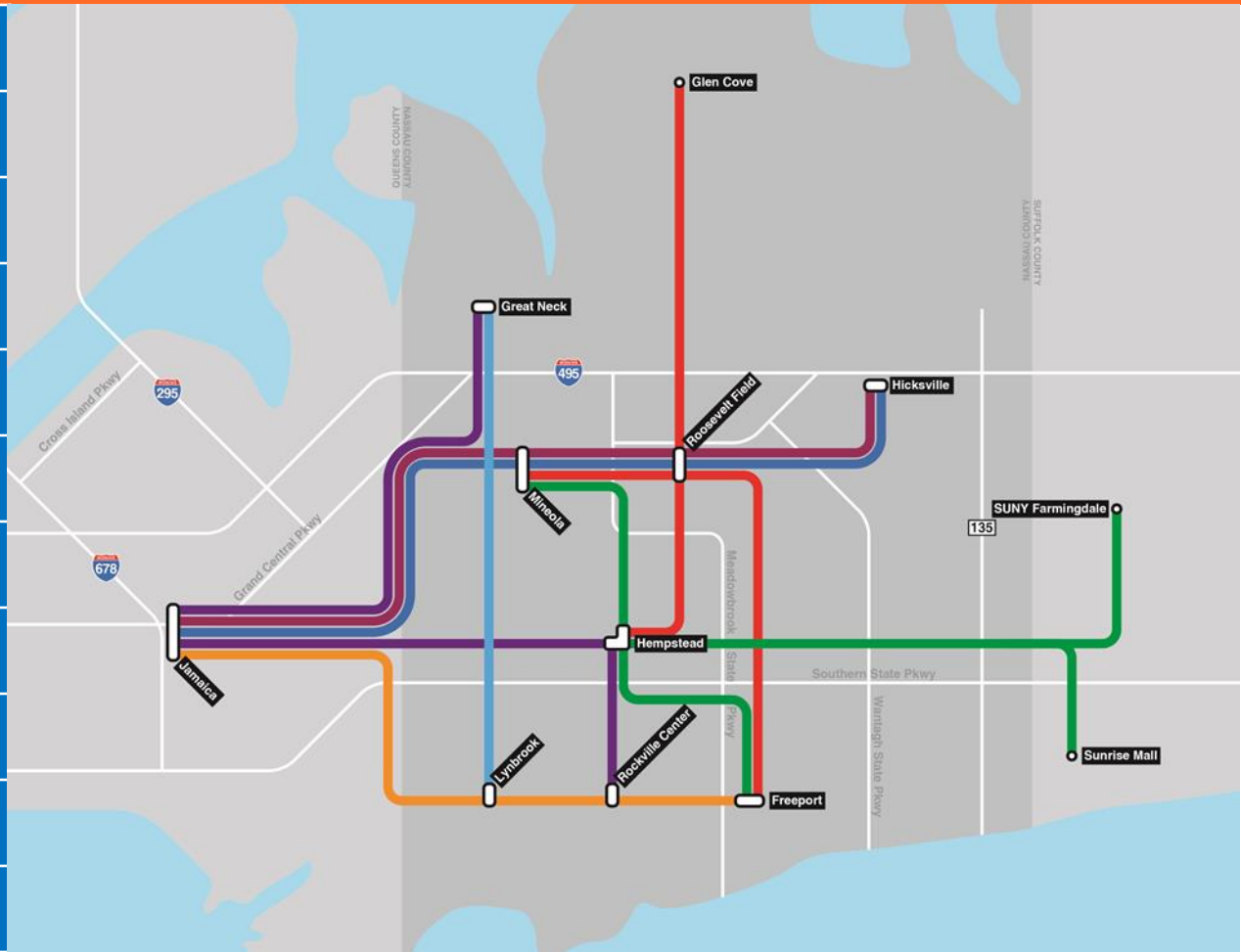
Weekend Service Network

- ***n1*** **Hewlett -Elmont**
- ***n6*** **Hempstead - Jamaica**
- ***n16*** **Roosevelt Field– Rockville Centre**
- ***n22*** **Hicksville - Jamaica**
- ***n24*** **Hicksville - Jamaica**
- ***n25*** **Lynbrook– Great Neck**
- ***n26*** **Great Neck - Jamaica**
- ***n27*** **Roslyn– Glen Cove**
- ***n40/41*** **Freeport - Mineola**
- ***n43*** **Freeport– Roosevelt Field**
- ***n70/71/72*** **Hempstead- Farmingdale**



Transit Oriented Development **Nassau Hub**

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Nassau Hub

The Nassau County Hub promises to be the centerpiece for redevelopment in the County. Transit must play a foundation al role to ensure long term sustainability with the goal of providing convenient, personal, multi modal transit solutions.

NICE Bus Transdev needs to work with all stakeholders involved in the planning process to ensure that transit is fully integrated into the plan from the very beginning. Providing transportation to and from the Hub location is just the beginning. Allowing passengers choices leveraging the latest technology and up to the minute travel information on their smart phones allows the Hub to transform the area supporting job creation and tax revenue to the area.

Mixed use, transit orient development requires creativity and the ability to offer choices. Besides high frequency bus service, other services such as on-demand flexi vehicles, bike share and car share may all be created, managed and deployed by Transdev. Live multi modal digital transit screens and a full area Wi-Fi coverage ensures that everyone receives information messages and updates through-out their stay. Additionally as density grows, Transdev has the ability to deploy autonomous pods circulating within the area, becomes a viable option to ensure flow and movement.

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Better
Customer
Infrastructure

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Better Customer Infrastructure

The customer experience with transit is more than the bus, train or shuttle, The system infrastructure of transit centers, stations, stops and shelters is equally important. Providing a positive experience while waiting for the bus, or transferring between a bus and train, is an essential component of the transit system and an important goal of NICE Bus.

As the Nassau County's largest passenger facility, the Hempstead Transit Center serves 20,000 passengers a day who transfer among 28 routes and the LIRR. The facility is dated and crowded, often resulting in an unwelcoming experience. NICE will help lead the charge to redevelop the Hempstead Transit Center into a world class facility. The **new Hempstead Transit Center** will be clean, open, airy and provide comfortable seating, clear and accurate arrival and departure information, and customer assistance. The new transit center will be developed as an asset to the surrounding community and fully coordinate with revitalization efforts in Hempstead's business district.

NICE will also engage in similar efforts to develop a **new Nassau Community College Transit Center** and the upgrade of transfer points at LIRR stations and other locations throughout Nassau County.

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Better Customer Infrastructure

Better customer infrastructure goes beyond major transit centers and transfer points. **Smart Stops** will be developed at major bus stops throughout Nassau County. Smart Stops will be instantly recognizable as attractive, clean and safe places to access transit service. The open, airy, brightly-lit stops will include canopies and covered seating, maps and schedule information., and emergency communications. Video and digital display panels with provide customers with accurate, real-time arrival and departure information and important announcements. A standard “kit-of-parts” design will employ attractive but durable materials that are easy to clean and maintain, and include facilities to accommodate bicyclists and persons with disabilities.

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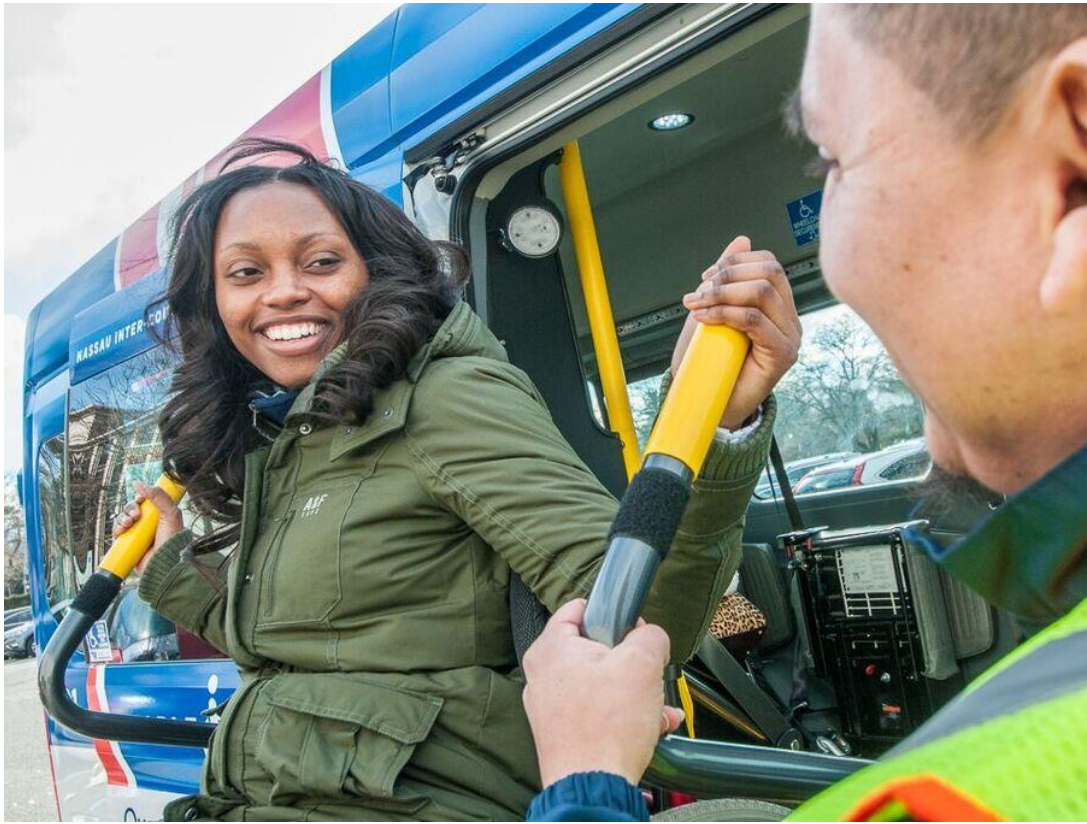
Countywide Able-Ride Service



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Countywide Able-Ride Service

To fully serve and support all the residents of Nassau County, NICE Bus believes **the Able-Ride service area should be extended beyond the current minimum requirement to full border-to-border service**.

In 2010, prior to Transdev operating Nassau County's transit system, the MTA and Nassau County reduced the Able-Ride service area to the minimum required by the FTA. This cost cutting measure shrunk the service area from entire County (border to border) by 15% to the current service area, leaving many senior citizens and person with disabilities without this lifeline service.

By expanding Able-Ride coverage to all of Nassau County, we anticipate a ridership increase of 15 – 20%.

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Innovative Community Service

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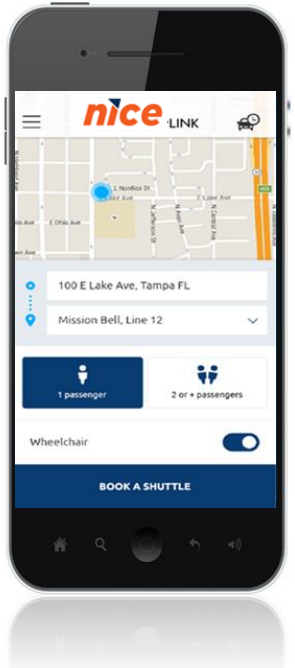
Innovative Community Service

Matching demand with the appropriate amount of seats and the exact time necessary is an important goal of any transit agency. This is especially true for Nassau County with its mix of major travel corridors and smaller, residential areas along the north and south shores and scattered within. Residents look for the ability to access transit within their community or to travel outside their neighborhoods to high frequency routes and countywide connections. In 2016, NICE launched two solutions to serve these areas.

Community Shuttles play many different roles. Scheduled fixed route service, door-to-door paratransit trips, feeders into main routes, on demand service & transit hubs. This is the perfect solution for villages looking to alleviate LIRR parking issues and the need to build expensive parking garages.

Flexi Shuttles operate in many of the same communities but instead of a traditional scheduled fixed route, the vehicles deviate on demand to offer customized trips to pre-determined stops off route. This expands access to even more Nassau County residents to stops beyond fixed point-to-point service. App-based, on-demand door-to-door service can also be made available using smaller, community based vehicles.



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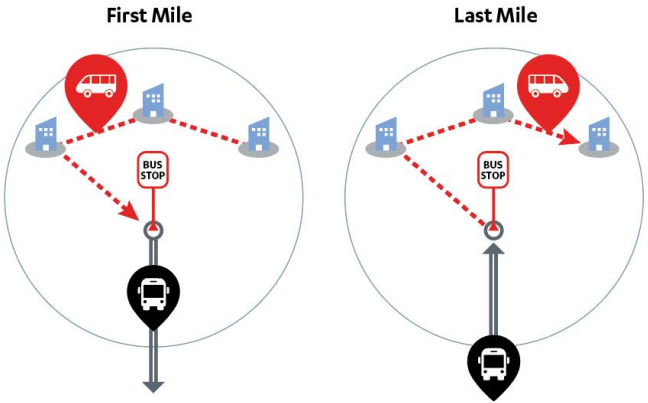
Innovative Community Service

Transit should not be a “one size fits all” service. Innovative community service does not necessarily mean that it has to be directly operated by NICE. A fully coordinated, seamless system is essential, but other entities and partners can be brought into the mix, to help provide convenient service in the most cost effective manner.

Potential partners include senior and social services, local communities, taxicabs and even transportation network companies like Uber and Lyft. In cities across the U.S., such as Tampa, transit agencies are partnering with the organizations and companies to fill in the gaps where a standard bus is too big or too costly to operate. One example is **“first mile-last mile” connections** between the end of a high frequency bus route or an LIRR station and a customer’s home or work place. By providing a convenient service to fill that gap, more Nassau County residents will be able to take transit to work, school, shopping or other opportunities and be less reliant on their car.



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Community & Flexi Shuttle **Zones**

East Rockaway Shuttle

Elmont Flexi

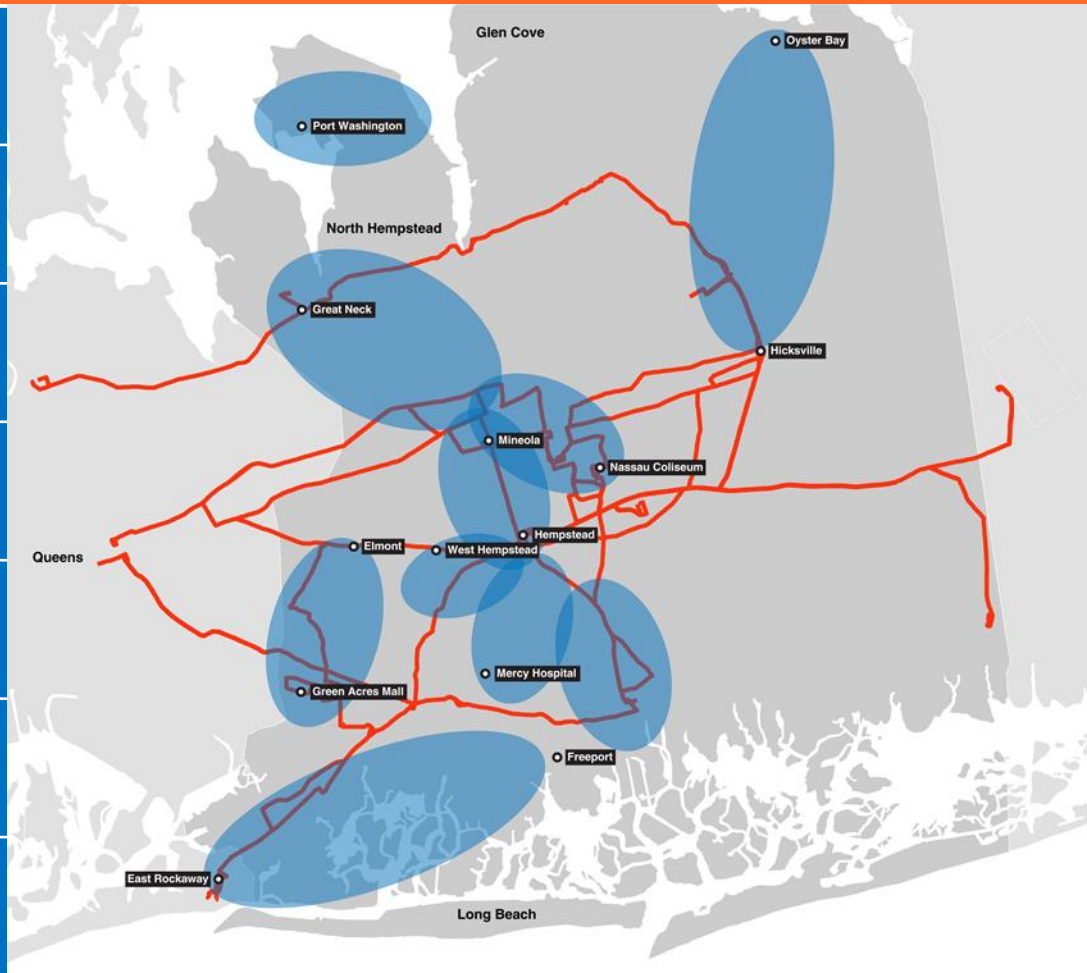
Freeport Shuttle

Hicksville– Oyster Bay

LIRR Shuttle
Great Neck, Mineola, Hempstead, West Hempstead

Mercy Medical Shuttle

Port Washington Shuttle



Introduce **Light Rail**

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Light Rail

Nassau County may soon be ready for light rail. Infrastructure of this magnitude goes well beyond the immediate needs for bus service throughout the County. However, Light Rail may be a longer term solution for travel along Nassau County's most popular bus routes, which are at or nearing capacity. It may also be a solution for north-south trips within the County that the east-west orientation of the LIRR cannot serve.

Today, there 28 light rail systems in the country, several of which serve suburban communities. Systems in New Jersey, California, North Carolina and elsewhere operate in conditions similar to Nassau County and have achieved high levels of ridership and productivity.

The Nassau Hub Study includes a plan for light rail in the central core of the County. Corridor-based alternative analysis studies are the first step in determining if Light Rail is the solution in other parts of Nassau County,

Cutting Edge
Technology &
Innovation

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Cutting Edge Technology and Innovation

NICE Bus has been in the forefront of innovation and use of new technology to improve operations, safety and customer convenience. A few years ago, NICE introduced its **GoMobile app**, providing instant access to fare payment and schedule information via smartphone.

In 2017, NICE also introduced **digital bus arrival displays** at the Hempstead Transit Center. Providing accurate and instantaneous information enhances reliability, a proven factor in maintaining existing riders and adding new riders to the system. Should a delay to due weather or traffic occur, customers will know right away.

"Big data" will provide NICE the ability to better tailor service to enhance customer convenience and efficient operations. Taking technology a step further, NICE will be able to introduce a **Tap It stored value smart card** payment option, with the potential to allow for all door boarding, resulting faster trips and "less stop, more go."

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Cutting Edge Technology & Innovation

The potential provided by technology can be applied to the design of Innovative Community Service and first mile-last mile connections. This process starts with the right-sizing vehicles of transit vehicles for lower density areas with strong transit demand, such as the use of smaller, 30-ft buses and cutaways that work better than typical 40-ft buses in neighborhoods, shopping areas, and office parks.

Cutting edge technology will also provide the opportunity to provide efficient on-demand personalized transit that benefits from the use of “big data” to drive performance.

Transit is also part of the revolution is automated vehicle technology. Autonomous mini-buses are now being tested at transit systems throughout the U.S. and around the world. They may seem a long way off, but the technology is advancing at a lightning pace.. NICE Bus can help Nassau County prepare for these changes while maintaining its commitment to safety, customer convenience, and cost effectiveness.

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Creating Bus Rapid Transit

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Transit Signal Priority

Moving Buses as quickly as possible is the one of the biggest pain points in promoting public transit. Applying this technology to the N6, N70/71, N4, N20, N22 and N25 may speed up travel time by up to 20%. Transit Signal Priority (TSP) which adjusts the traffic signal timing to give priority to transit vehicles at selected intersections is the most common solution.

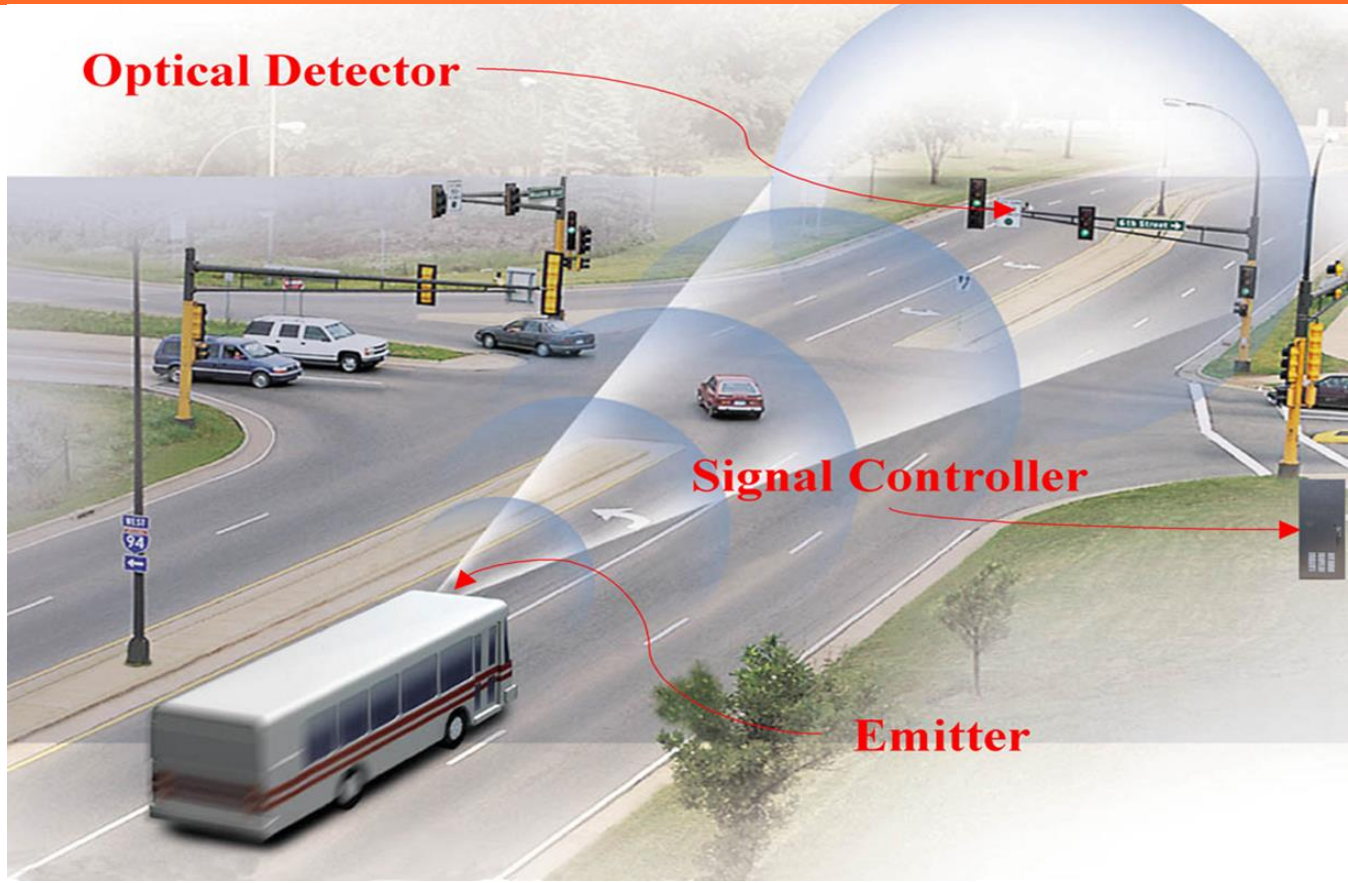
TSP can be manually triggered by the bus driver or, more typically, can be automatically controlled using on-board Automatic Vehicle Location (AVL) or Automatic Passenger Counter (APC) technology. TSP is usually implemented with stops located on the far side of an intersection in order to allow time for activating the priority call and clearing the intersection before stopping the bus.

As buses approaches a red light intersection, the bus communicates with the light either holding a green or speeding up the opposing red signal to move the bus through the intersection with a minimum of delay. In all cases, the signal is only sent if the bus will improve it's on time performance, if a bus is currently on time, TSP does not activate.

Transit Signal Priority Signal Logic

TREATMENT		DESCRIPTION
Passive Priority	Adjust cycle length	Reduce cycle lengths at isolated intersections
	Split phases	Apply multiple phases while maintaining original cycle length
	Areawide timing plans	Preferential progression for buses through signal offsets
	Bypass metered signals	Buses operate in exclusive lanes, special signal phases
Active Priority	Phase extension	Increase phase time
	Early start	Reduce other phase times
	Special phase	Addition of a bus phase
	Phase suppression	Skipped non-priority phases
Real Time Priority	Delay-optimizing control	Signal timing changes to reduce overall person delay
	Network control	Timing changes considering the overall system performance

TSP Components



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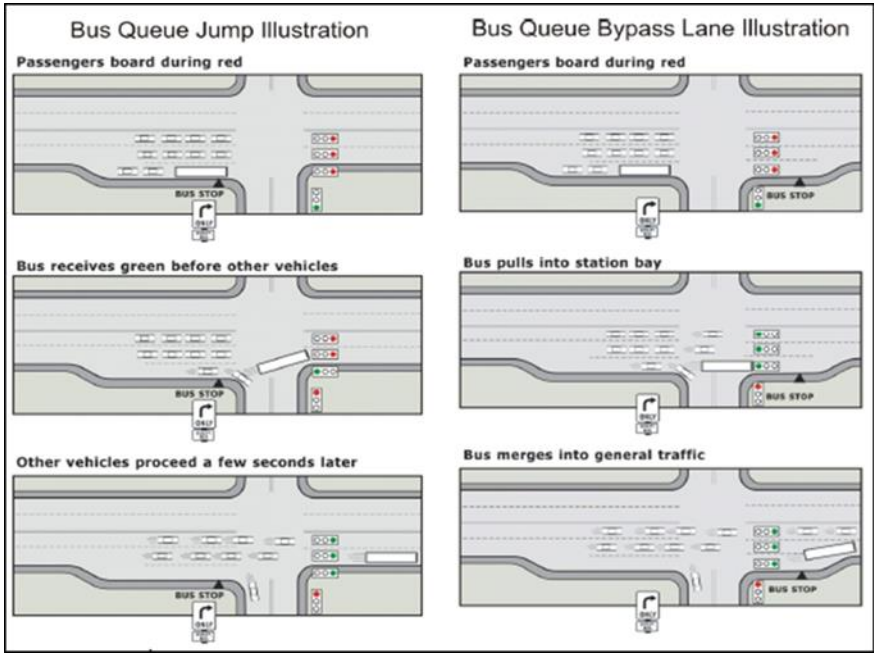
Queue Jumps

Queue jumps are an alternative to TSP; they are preferable when there is a need for a near-side bus stop. Queue jump treatments reduce delays at signalized intersections for bus transit by using a right-turn lane or a separate lane for buses only to avoid the queue at red lights in the adjoining through lanes. Buses are exempted from any right-turn requirements at the intersection. For the purpose of analyzing traffic impacts, a bus signal phase providing a green light for a short period of time (3-4 seconds) before the adjacent traffic lanes get their green time would be, allowing the bus to exit the auxiliary lane and merge into general traffic on the far side of the intersection.

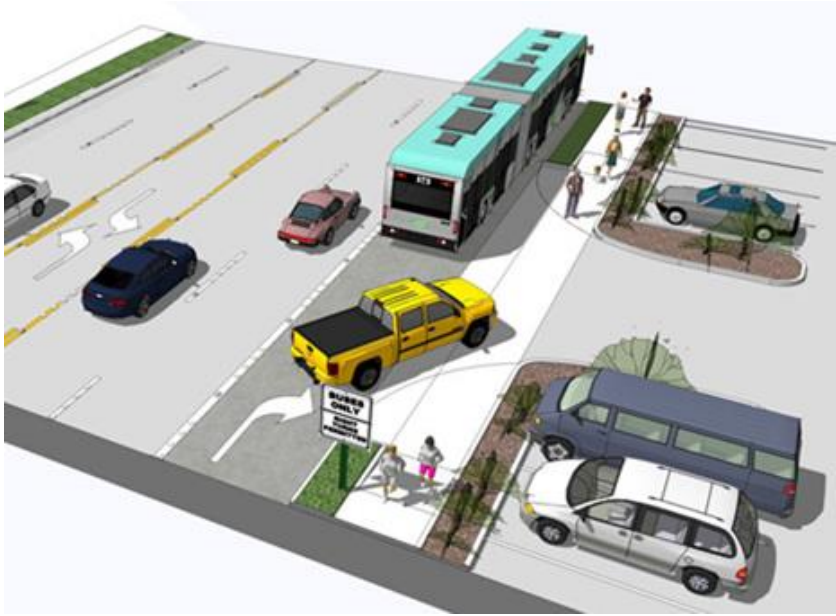
An alternative to the queue jump signal is the implementation of a queue bypass lane. With a queue bypass lane, a bus would use a near-side auxiliary lane to bypass the adjacent through-traffic queue. Instead of having a queue jump signal to get back into traffic, the bus would continue through the intersection into a far side stop, which could be a pullout, shoulder, or no-parking zone.



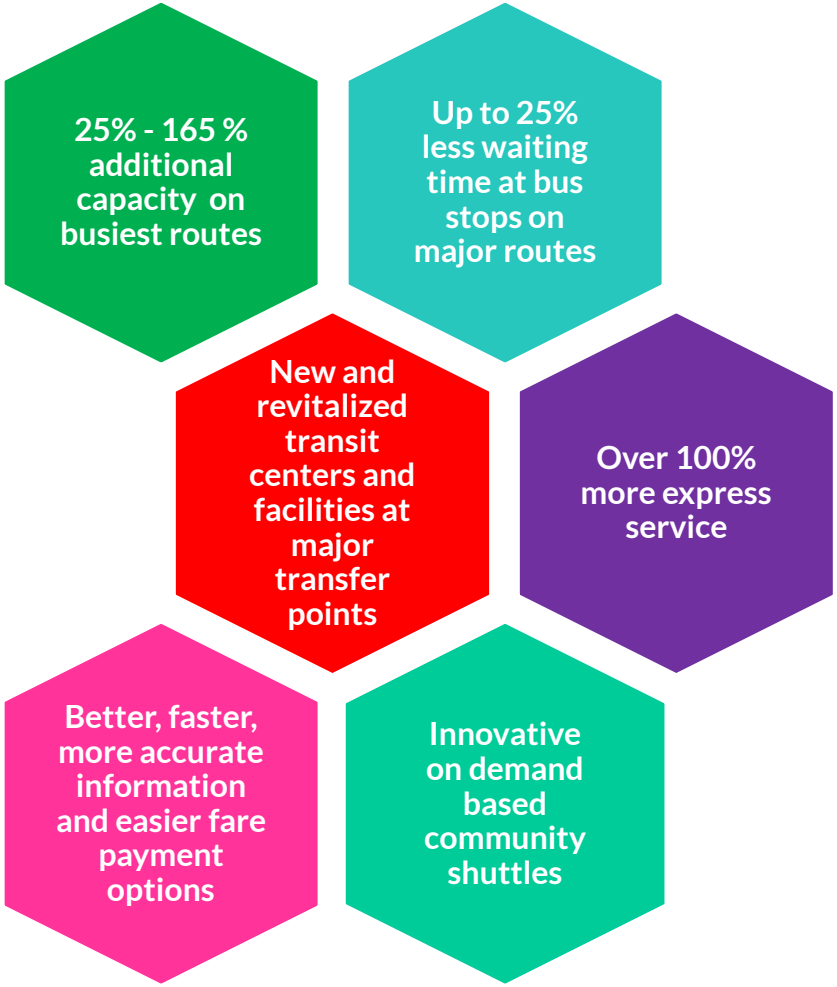
Business Access and Dedicated Bus Lanes

Dedicated transit or bus priority lanes provide the highest level of BRT service, offering better travel speeds, enhanced service reliability, and a superior customer experience. Bus priority lanes are used to give BRT vehicles an operating environment free from delays caused by general traffic. Improved travel time provides consistency to regular transit users and reduction in the amount of recovery time built into transit schedules, which can offer the transit operator significant savings in operating and maintenance costs.

A semi-exclusive version of a bus lane, known as a Business Access and Transit (BAT) lane, restricts travel in the curbside lane to buses, right turns, and local traffic accessing driveways and business parking lots. BAT lanes can be implemented in general traffic lanes, or use a parking lane during peak periods. The BAT lane concept would be most applicable to the arterial options analyzed by the Rapid Transit Corridors Study. BAT lanes have been considered for segments of each alternative where the existing lane configurations and traffic volumes would allow bus operations in a semi-exclusive lane.



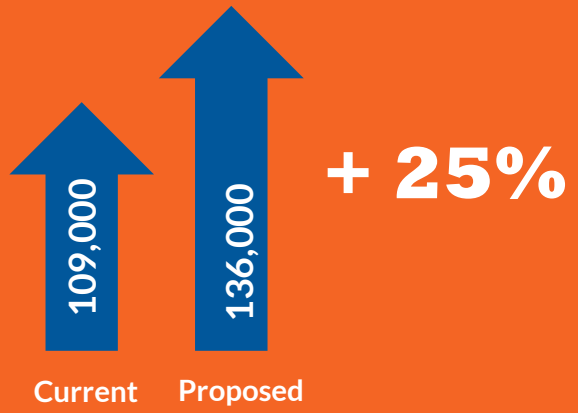
How customers can **benefit** from improved transit



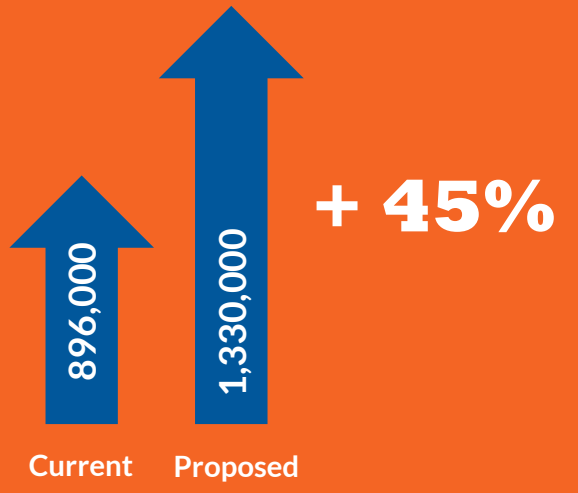
Better **Access** for More People

The improvements in service under *Let's Go!* are nowhere more critical than in the provision of more convenient, frequent service. Over 1.3 million Nassau County residents will have quick and easy access to frequent transit – buses running every 10 minutes or better in peak periods and every 15 minutes of better in off-peak periods – an increase of 45% over today's frequent coverage.

Low Income Residents



All Residents



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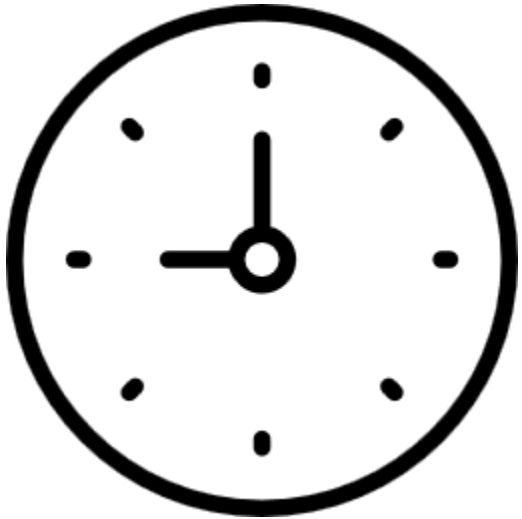

n1 Hewlett - Elmont

n4 Freeport-Jamaica

n6 Hempstead - Jamaica

n22 Hicksville - Jamaica

n24 Hicksville - Jamaica

n26 Great Neck - Jamaica

n31/32 Hempstead– Far Rockaway

n43 Freeport– Roosevelt Field

n48/49 Hempstead– Jericho Quad

n70/71/72 Hempstead - Farmingdale

More Frequent Service Benefits Nassau County

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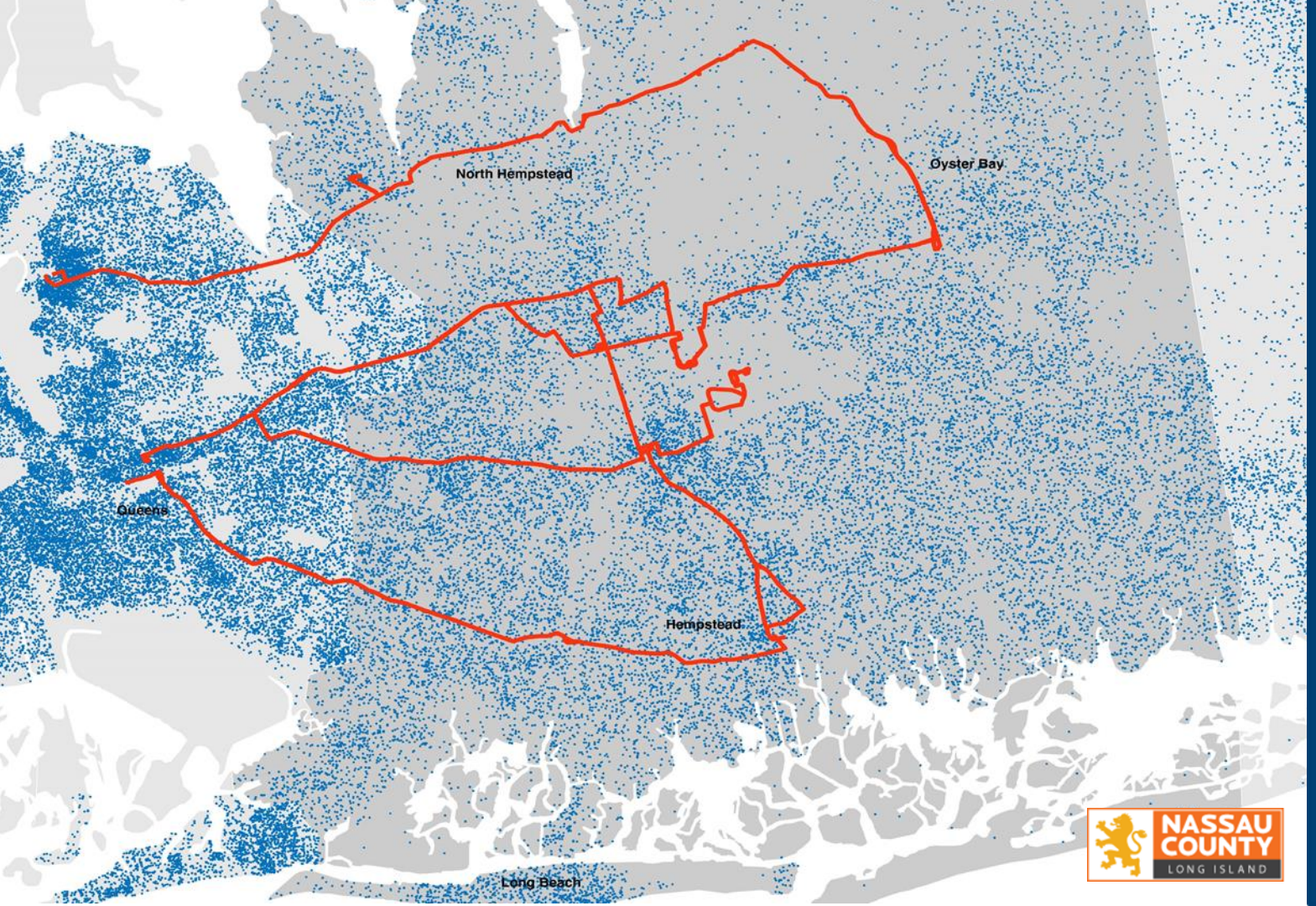
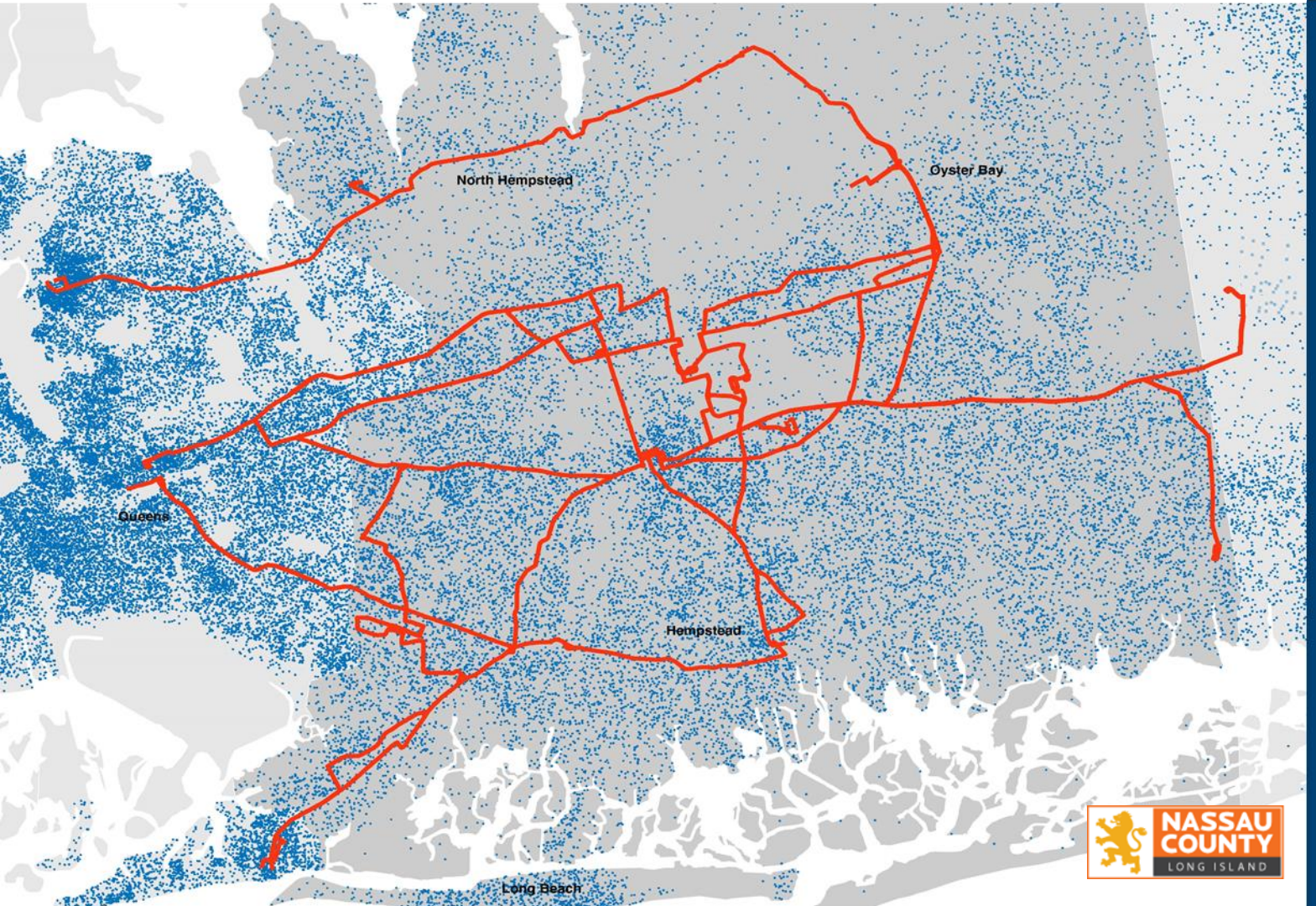
Current Access to Frequent Service



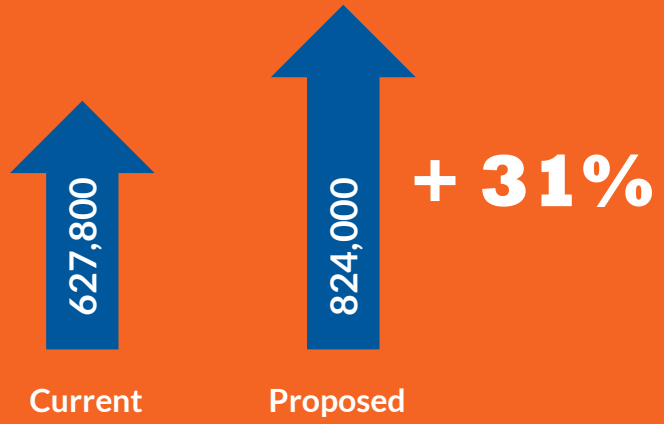


Improved Access to Frequent Service

NASSAU COUNTY
LONG ISLAND

Better **Access** to Jobs

The benefits of more convenient, frequent service under Let's Go! Extend to access to jobs. Nearly 825,000 jobs will be accessible to Nassau County residents via buses running every 10 minutes or better in peak periods and every 15 minutes of better in off-peak periods – an increase of 31% over today's frequent coverage.



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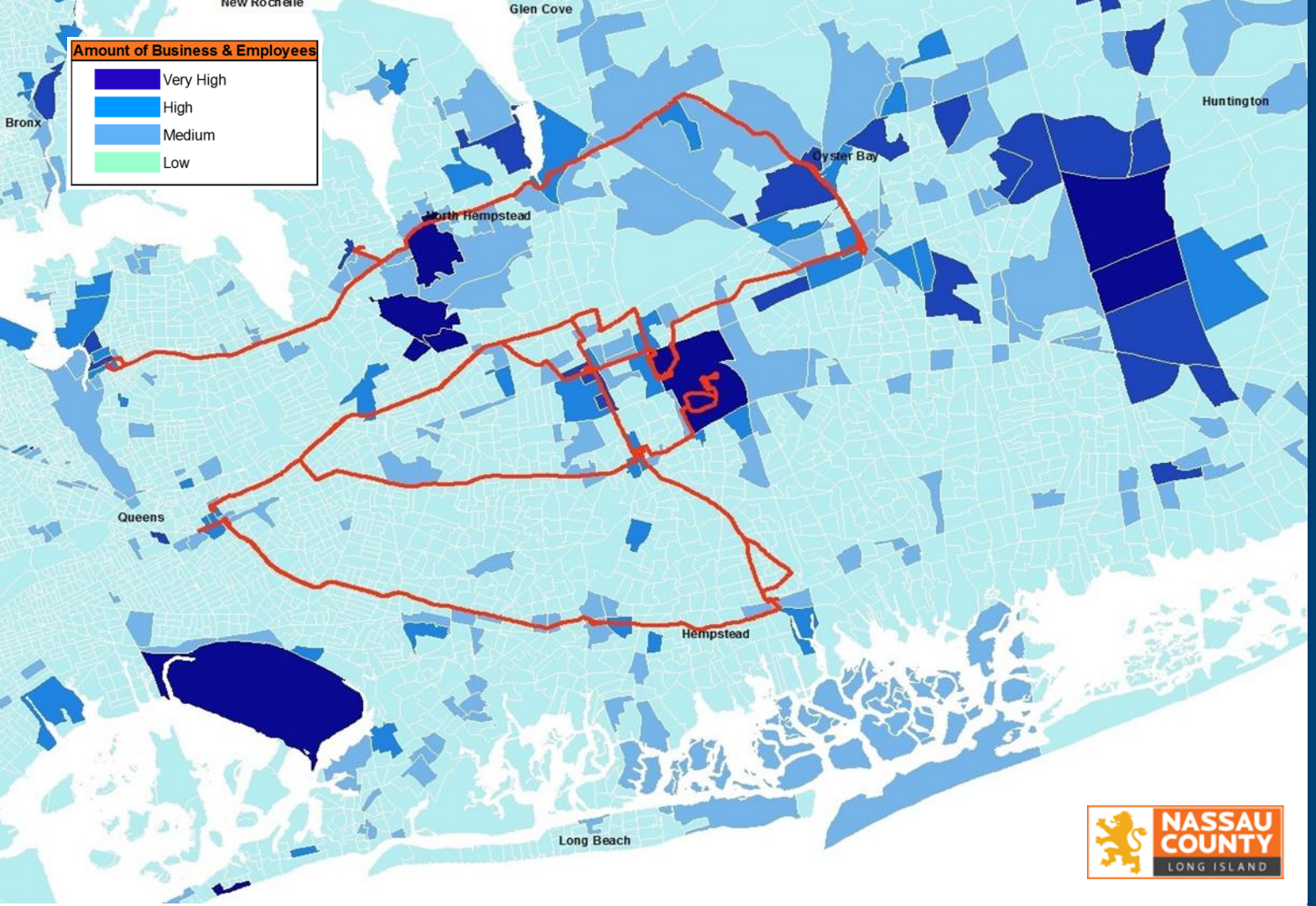
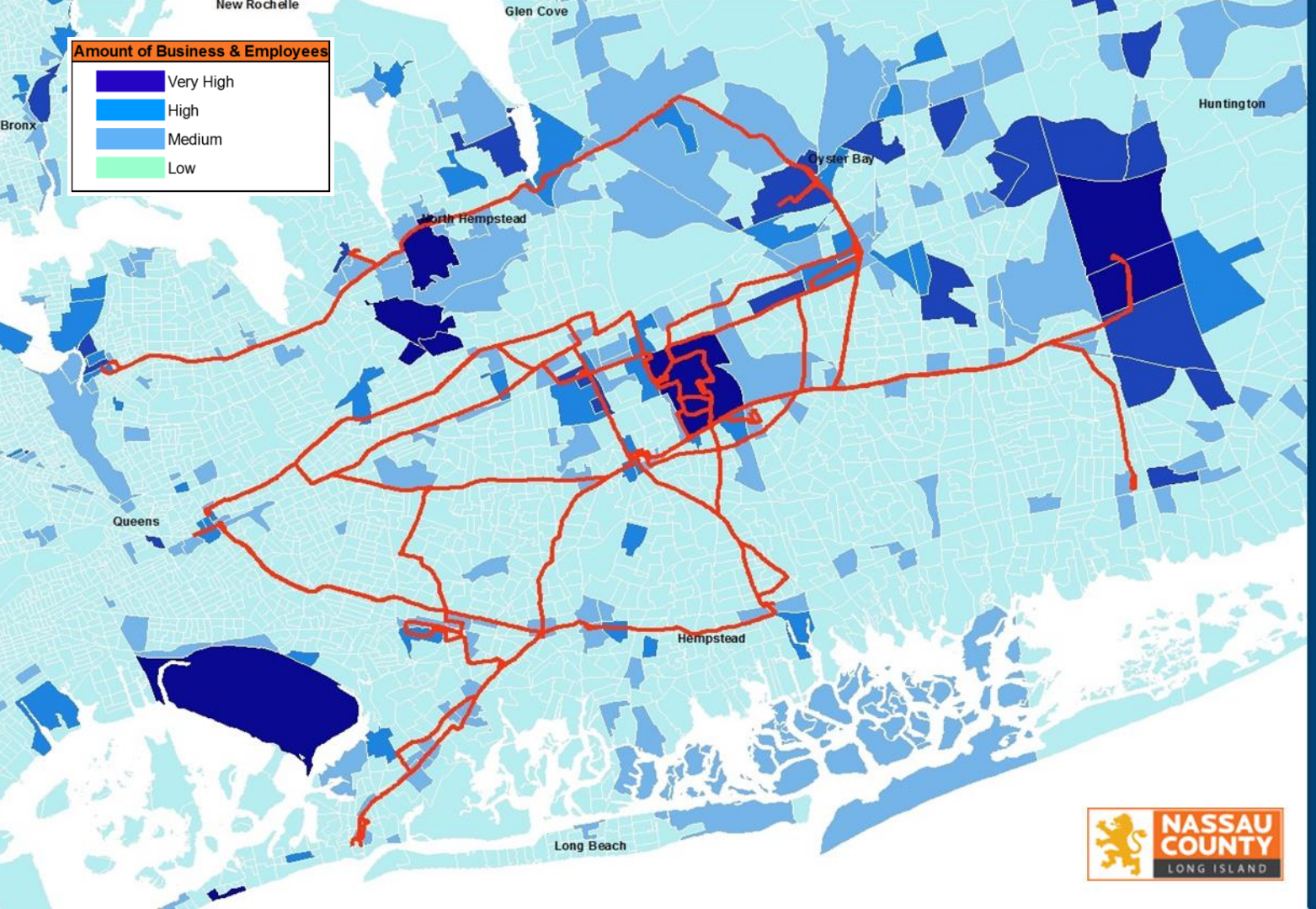
Current Frequent Service Access to Jobs



NASSAU COUNTY
LONG ISLAND

Improved Frequent Service Access to Jobs



Next Steps

- **Ongoing:**
  Continue to work toward independent and reliable sources of funding that include modest CPI increases.

- **Early Fall 2017:**
  Draft Transit Development Plan.

- **Summer 2018:**
  Ask the public, stakeholders, and customers for input and ideas at countywide open houses.

- **Late 2018:**
  Publish final Transit Development Plan.

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