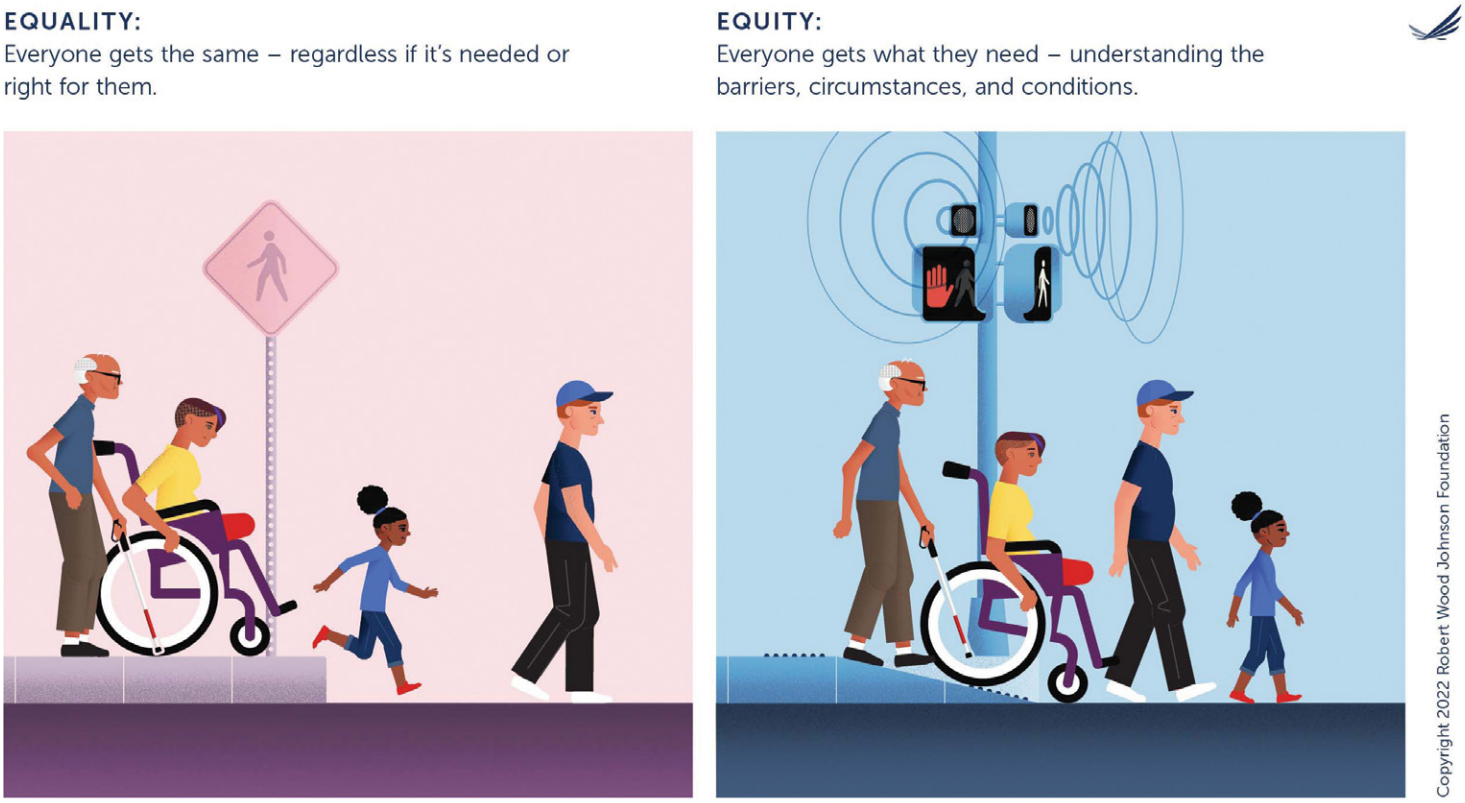
Queens Bus Network Redesign Equity Evaluation

Introduction

The bus network in Queens plays a vital role in connecting communities to essential services, employment, education, and recreation. Over the last several decades, New York City has experienced significant growth and change, but the bus network has not kept up with the evolving needs of our riders. The Queens Bus Network Redesign aims to create a more efficient, reliable, and accessible bus system that better serves the needs of all riders, while prioritizing equity to address disparities in access and opportunity.

Equity in the context of public transit is the fair and just distribution of access, resources, and opportunities, ensuring that all individuals – especially those from historically underserved or marginalized communities – benefit from transit services and infrastructure without bearing disproportionate burdens.

This assessment analyzes the investment, potential improvements, and benefits of the Queens Bus Network Redesign on communities across our service area, with a focus on historically underserved populations. It also assesses how the project aligns with our commitment to equitable access to transportation.



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MTA's Equity Framework

Recognizing the presence of historically disadvantaged populations helps ensure that resources are invested, either through allocation or reallocation, and protected within these communities to reduce obstacles to transit access.

As the Queens Bus Network Redesign was developed, three Equity Tiers were created to aid in identifying the equity concern in an area. Federally, this is defined by Title VI of the Civil Rights Act of 1964, which is characterized by a high concentration of low-income or minority populations. In addition to Title VI status, New York City Transit considers a broader set of socioeconomic factors in analyzing equity: transit dependency, minority representation, income, access to opportunity, and mobility needs. Each indicator was weighted based on its relevance to transit equity, as illustrated in the chart below, arranged generally from highest to lowest weight.

Indicators	Theme
Population by Race and Ethnicity Includes all groups except White Alone	Minority Population
Zero Vehicle Households	Transit Dependency
Population Living in Poverty	Low Income People
Average Travel Time to Work Includes commutes greater than 45 min in NYC, and commutes greater than 60 min outside of NYC	Access to Opportunity
Population with a Disability Only those under age 65	Mobility Needs
Limited English Profiency Households	Minority Population
Age Includes those under 18 years old and over 75 years old in NYC, and those over 75 years old outside of NYC	Transit Dependency & Mobility Needs
Population with a High School Diploma or Lower Those over 25 years old	Access to Opportunity

Data source: American Community Survey 5-year estimates (2018-2022); NYC – Census block groups; Outside of NYC – Census tracts

This approach aligns with best practices observed among other U.S. transit agencies that also rely on geospatial analysis and up-to-date census data to regularly assess areas of need. While most agencies use a set of common variables, such as race, income, vehicle access, and commute times, they may weigh indicators differently to reflect the specific needs of their service areas. This alignment with industry standards ensures that the MTA's equity analysis is thorough, relevant, and grounded in established methods.

Considering Equity in Queens Bus Network Redesign

To effectively incorporate equity considerations into the Queens Redesign planning process using a data-driven approach, a detailed Equity Score Index was developed using the MTA equity framework indicators listed above. This index assigned Equity Scores to geographies, facilitating an evaluation of differences between the existing and proposed Queens bus network. Equity Scores were then categorized into three distinct tiers to prioritize considerations based on the level of equity impact.

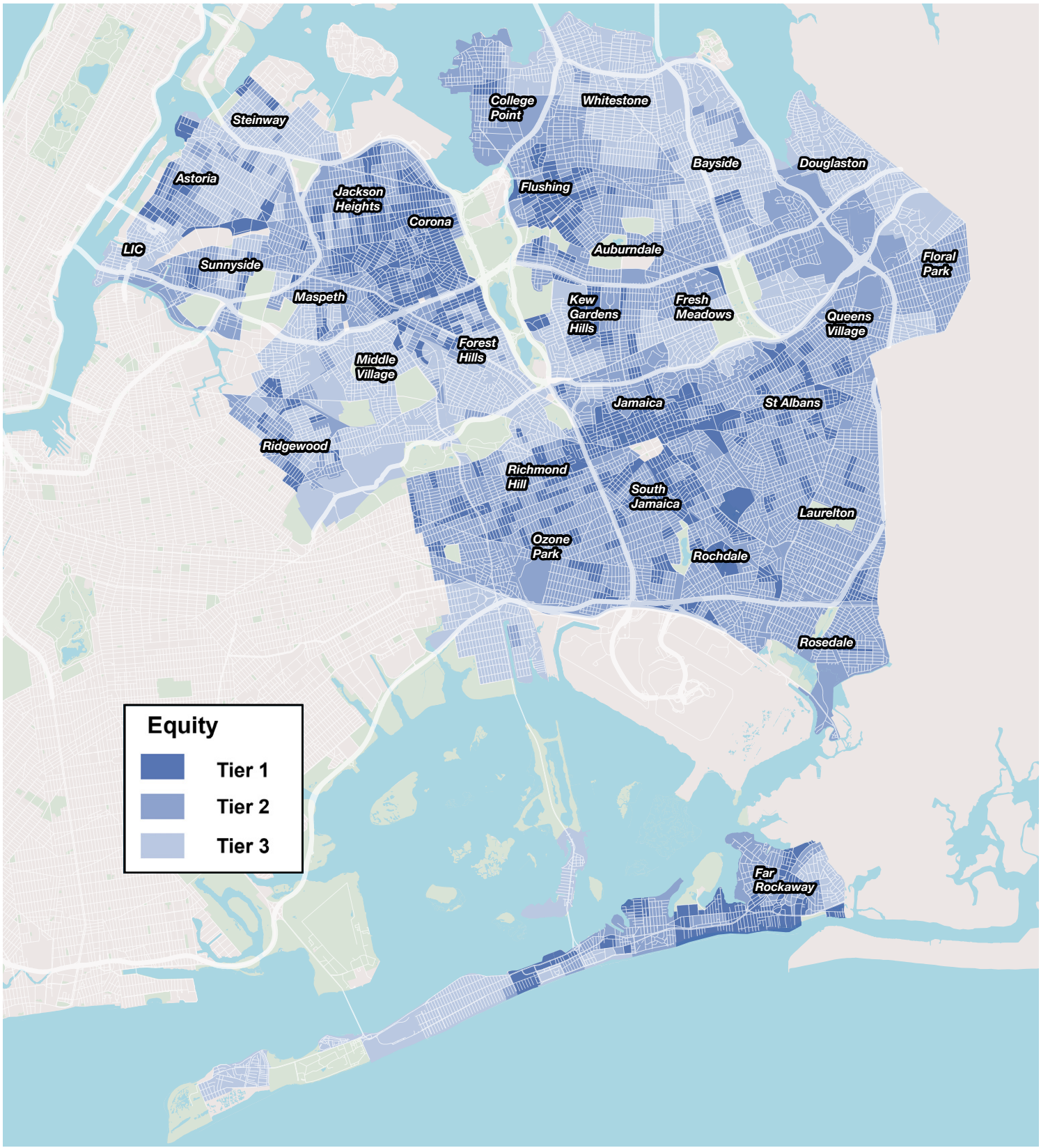
Tier 1: Significant Equity Consideration represents areas where transit-dependent populations, historically underserved communities, and/or those facing systemic inequities are most concentrated, indicating a critical need for focused improvements.

Tier 2: Moderate Equity Consideration includes areas with notable, though less severe, equity challenges, suggesting a need for enhancements that balance equity goals with operational considerations.

Tier 3: Low Equity Consideration encompasses areas with comparatively lower equity-related concerns, where adjustments may still be valuable but are less urgent.

In compliance with federal standards, all communities in Title VI areas are considered in either Tiers 1 or 2 (Significant or Moderate Equity Consideration).

This map represents the study area, with data analyzed by Census block group in New York City.



Route Improvement Assessment

To evaluate the potential service improvements that the Queens Bus Network Redesign will offer, an analysis was conducted on the Proposed Final Plan Addendum comparing the proposed Redesign network with the existing network, focusing specifically on enhancements aimed at addressing key service issues. Particular attention was given to identifying strategies that tackle persistent challenges such as unreliable routes, confusing service patterns, and redundant, overlapping, or slow services. By identifying where these solutions will be implemented, this evaluation provides insight into how effectively the Redesign addresses the needs of moderate and significant equity areas and enhances the overall accessibility and reliability of bus service in these communities.

To calculate the population for each indicator within our equity framework for a bus route, a ¼-mile walkshed was created around each bus stop. The walksheds from all stops along the route were combined to form the overall bus route walkshed. This combined walkshed was then overlaid with census block group data from the 2018–2022 American Community Survey to estimate the population within ¼ mile of the route. For census block groups that were only partially covered by the bus route walkshed, we assumed a uniform population density across the block group to estimate the population within the walkshed.

Each of the proposed route changes aims to address one or more Rider Priorities: Reliable Service, Faster Travel, Better Connections, and Simplified Service. To achieve these goals, we applied a range of globally recognized network redesign strategies. The route strategies used are described below, along with examples of each, and a full list of all the strategies by route can be found in Appendix E.

Schedule

Improve Frequency & Span

Improvements to frequency and spans offer significant benefits for riders and the overall transit network. Increased frequency reduces wait times and overcrowding, making transit more convenient and reliable, particularly for time-sensitive trips. Expanding service spans ensures that buses operate earlier in the morning and later into the evening or overnight, providing critical connectivity for workers with non-traditional schedules, such as those in retail, healthcare, or airport operations.

In the Redesign, frequency improvements were made to 16 routes, driven primarily by higher passenger demand and prioritized in routes that serve Tier 1 and 2 areas. As for spans, 8 routes saw an increased span, due to the introduction of new overnight service or a minor span adjustment.

Frequency Increases:

Q1, Q3, Q7, Q8, Q9, Q11, Q25, Q26, Q36, Q50, Q54, Q67, Q75, Q80, Q89, Q115

Span Increases:

Q7, Q16, Q23, Q26, Q36, Q47, Q60, Q80

The **Q1** is a good example of a frequency increase benefiting several Tier 1 and 2 areas. By offering more frequent service, the route provides all-day frequent service at local stops on Hillside Avenue, improving wait time for more customers. As the primary local option on Hillside Avenue, the enhanced frequency along with the extension to Sutphin Boulevard and Jamaica Avenue near the Jamaica LIRR station significantly reduces travel times for residents in the area, where nearly 70% of the population face commutes longer than 45 minutes.

The **Q7** has received a span increase to address the lack of east-west overnight service along the Rockaway Boulevard corridor. Providing 24-hour transit service is essential for communities that depend on public transportation as their primary means of commuting. In the areas served by the **Q7**, nearly 30% of residents do not own a vehicle, making reliable overnight service critical for equitable access to jobs, healthcare, and other essential services.

It is important to note that this analysis compares the proposed frequencies and spans from the Proposed Final Plan Addendum to the existing network. If a new route was merely a relabeling of an existing route with the same routing pattern, the frequencies and spans from the original route were used in the comparison.

All-Day Frequent and Overnight Network

To further analyze frequency and spans through an equity lens, we conducted an analysis comparing the existing all-day frequent network and the existing overnight network with those proposed in the Proposed Final Plan Addendum. The all-day frequent network refers to bus stops that have 10-minute-or-better frequency throughout the day (6am-9pm), while the overnight network encompasses routes operating between midnight and 4am.

We calculated the population that has access to these networks considering a walkshed of ¼ mile from bus stops, and the results are as follows:

All-Day Frequent Network Coverage

	Total Queens Population	Existing Network		Proposed Network		Increase	
		Population	Percent	Population	Percent	Population	Percent
Tier 1	627,000	419,000	67%	445,000	71%	26,000	4%
Tier 2	1,083,000	620,000	57%	670,000	62%	50,000	5%
Tier 3	651,000	283,000	43%	331,000	51%	48,000	8%
Total	**2,361,000**	**1,322,000**	**56%**	**1,446,000**	**61%**	**124,000**	**5%**

A network that has a better all-day frequent grid gives riders more freedom to travel across the borough without having to look at a schedule. The proposed plan results in a 4% increase in the population served by the frequent network in Tier 1 areas. While this growth may seem modest, it reflects the fact that Tier 1 areas are already well-covered by the existing frequent network. In Tier 2 areas, 5% more people would gain access to all-day frequent service, while Tier 3 areas would see an 8% increase in coverage. These changes build upon the strengths of the existing network while extending frequent service to additional populations. Overall, the plan achieves a 5% increase in the total population served by the all-day frequent network, meaning that after the Redesign, 61% of the total population of Queens will have access to 10-minute-or-better bus service within a ¼-mile walk.

Overnight Network Coverage

	Total Queens Population	Existing Network		Proposed Network		Increase	
		Population	Percent	Population	Percent	Population	Percent
Tier 1	627,000	482,000	77%	505,000	81%	23,000	4%
Tier 2	1,083,000	806,000	74%	828,000	76%	22,000	2%
Tier 3	651,000	408,000	63%	430,000	66%	22,000	3%
Total	**2,361,000**	**1,695,000**	**72%**	**1,763,000**	**75%**	**68,000**	**3%**

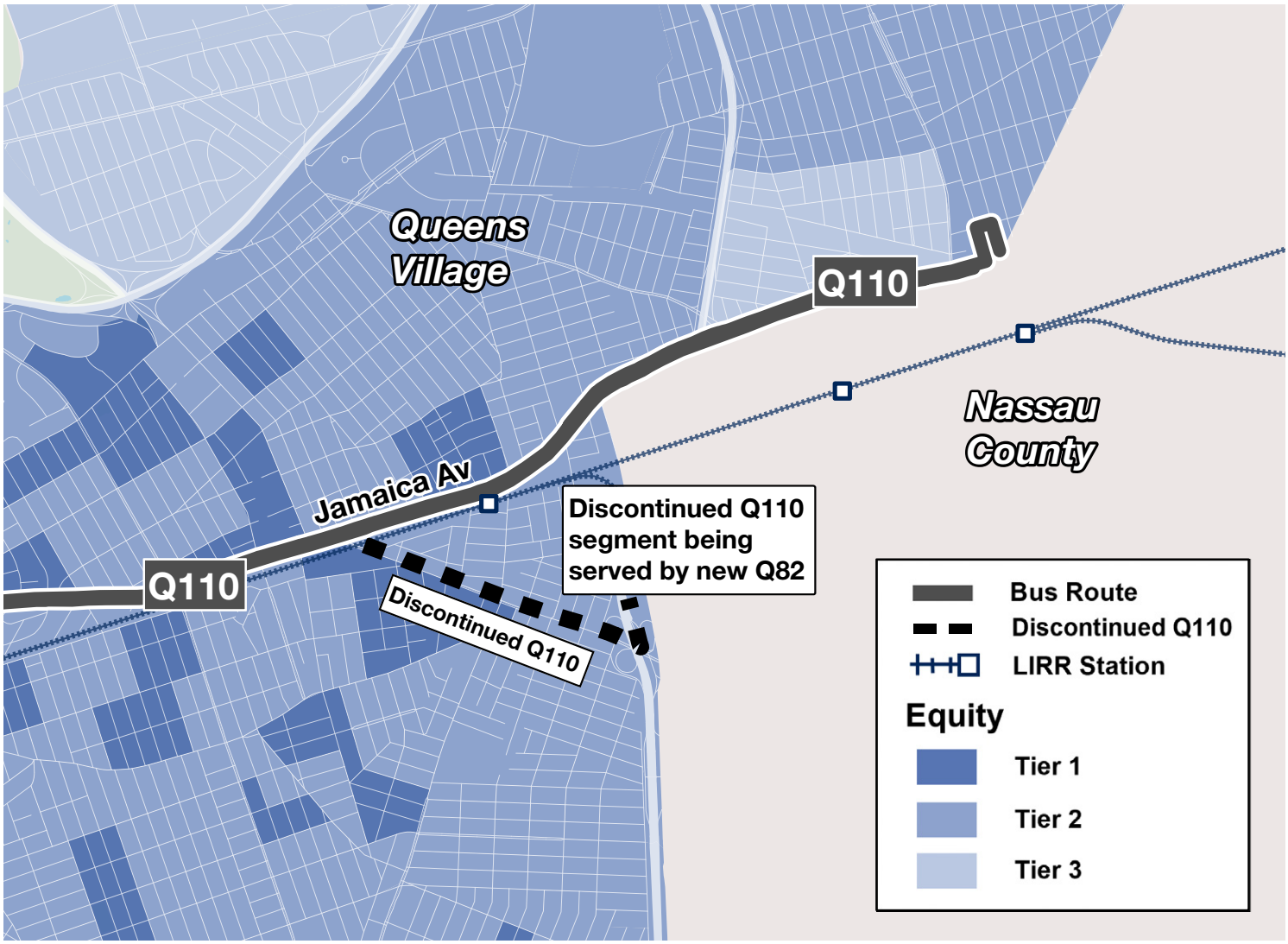
Another key goal of the Redesign was to expand options for transit-dependent individuals completing essential trips. Recognizing that not everyone works a 9-to-5 schedule, the project focused on improving late-night and overnight transit service, ensuring more options for those traveling outside of daytime peak commute times. The proposal would increase access to the overnight network by 4% for riders living in Tier 1 areas, 2% in Tier 2 areas, and 3% in Tier 3 areas. Similarly to the all-day frequent network, the overnight network is designed to serve the population that relies on it the most, and after the Redesign, 80% of residents in Tier 1 areas will have access to overnight service. Overall, 75% of the population in Queens will be served by the overnight network, marking a 3% increase in coverage and further strengthening transit access during overnight hours.

The result of this analysis demonstrates that the Queens Bus Network Redesign enhances transit access for residents across all Equity tiers. Areas with the greatest needs, which already benefit from robust service today, will see additional improvements as a result of the Redesign with increased coverage of both the all-day frequent network and the overnight network.

Routing

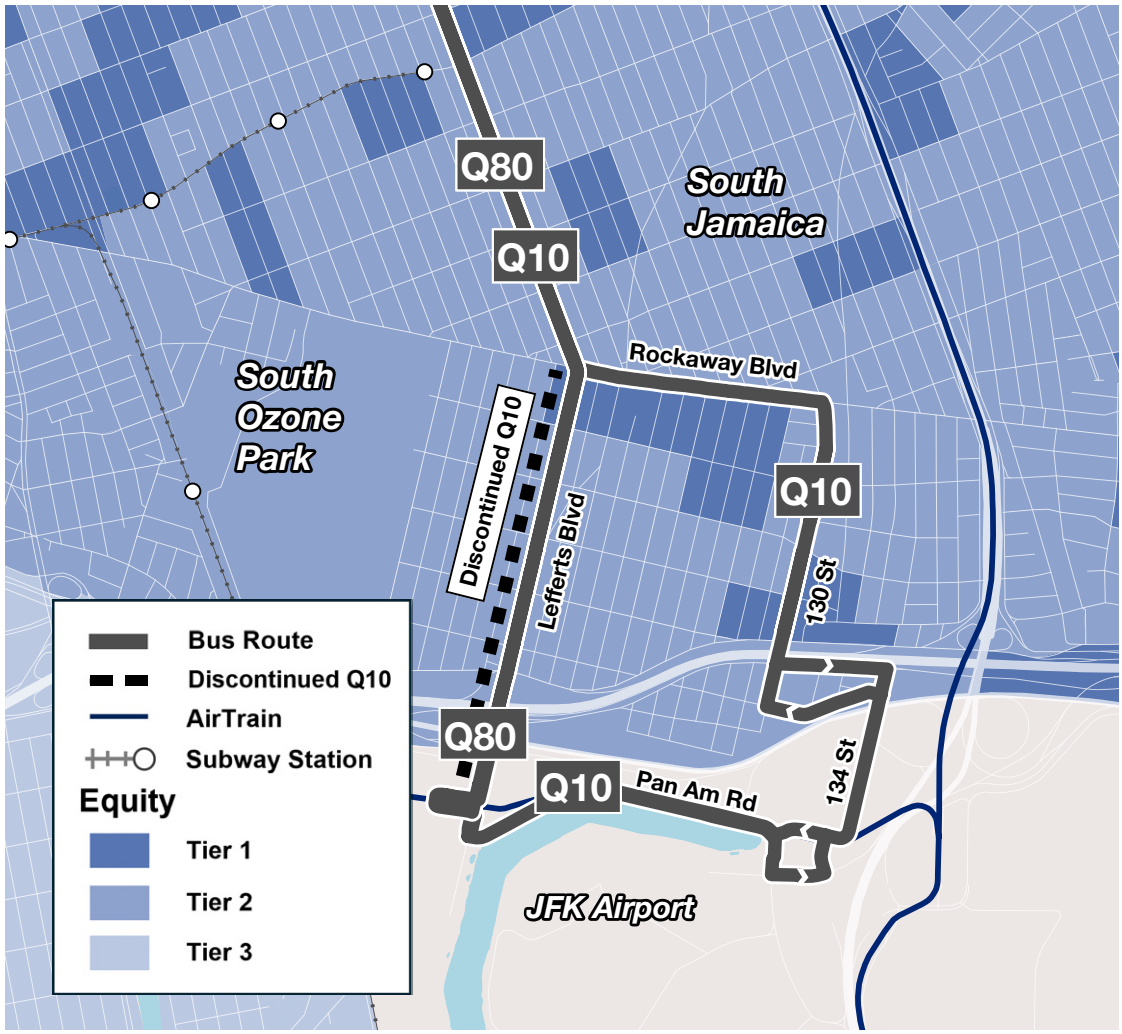
More Direct Routing

More direct bus routes offer several advantages that enhance both efficiency and the rider experience. By minimizing turns and deviations, direct routes reduce travel time, increasing speed and reliability. Several routes within the network have been streamlined, including the **Q110** in Southeast Queens. The existing **Q110** connects passengers from Parsons Boulevard in Jamaica to Belmont Park. By rerouting the **Q110** and extending it to Floral Park, the route now offers a more direct path and expanded coverage, enhancing travel efficiency in an area where 94% of the population is non-white and 40% is transit dependent. This change would also add a connection to the Queens Village LIRR. Passengers on the discontinued portion of Hempstead Avenue would be served by the new **Q82**, ensuring continuity of service in the area.



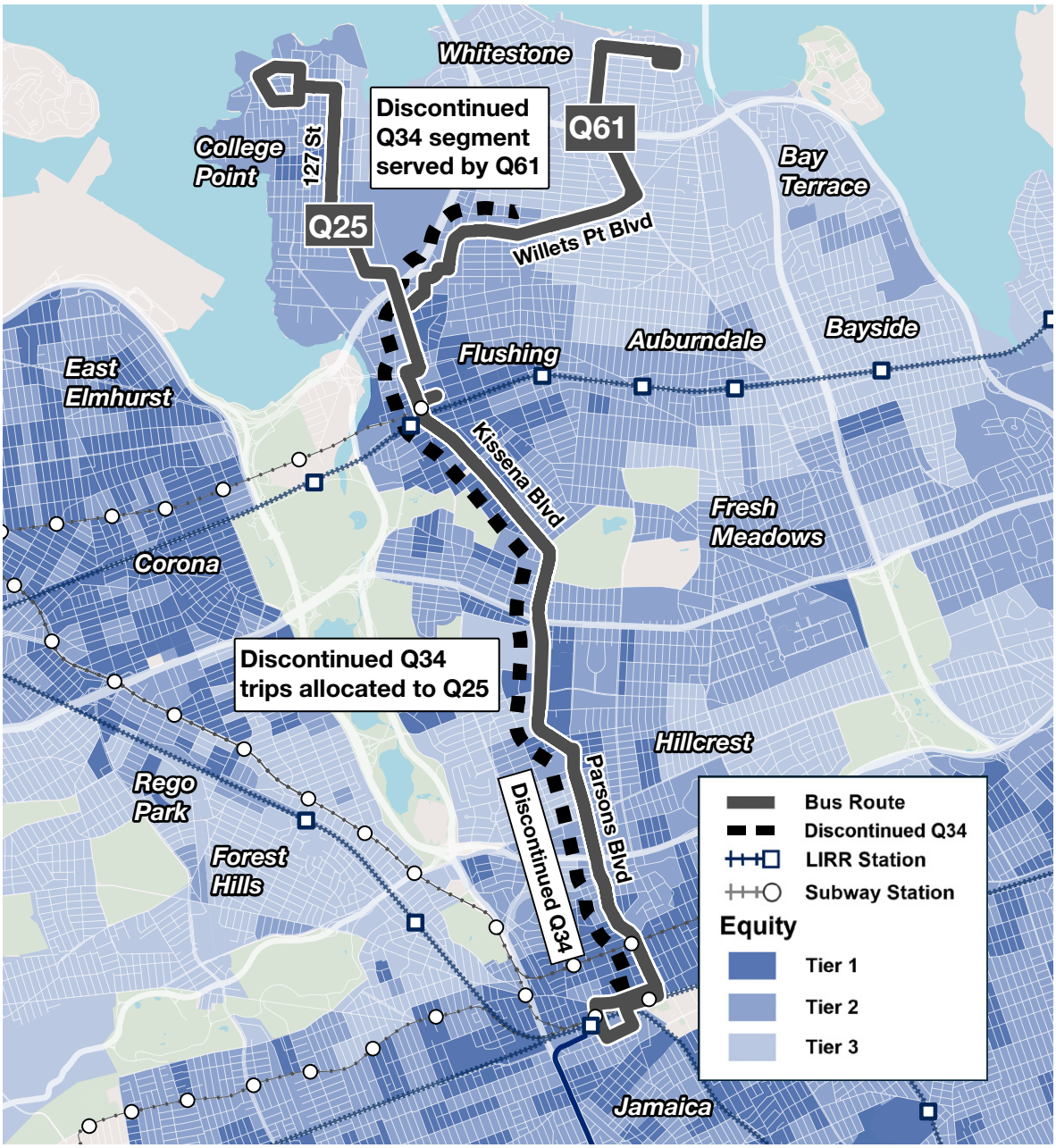
Simplify Variants

In Southwest Queens, the **Q10** route traverses several Tier 1 and 2 areas of equity consideration, and has multiple service patterns: one that travels along Lefferts Boulevard providing direct service to JFK Airport, another that serves South Ozone Park before heading to the airport, and a third that ends in South Ozone Park without continuing to the airport. While each of these branches serves a specific purpose, they can be confusing for passengers because they all share the same route number. To simplify the network, a new route label – the **Q80** – has been introduced for the Lefferts Boulevard route that goes directly to the airport and would serve a population that is over 80% non-white. The **Q80** would offer more frequent and new overnight service along the entire length of Lefferts Boulevard, improving service for airport workers who may have non-traditional work schedules. Meanwhile, the **Q10** would maintain its pattern between Kew Gardens and JFK Airport, still serving residents along Rockaway Boulevard and 130 Street. Additionally, the **Q10** would be restructured as a "Rush" route, providing faster service for South Ozone Park residents traveling to Kew Gardens, while still maintaining the connection to the airport.



Combine Routes

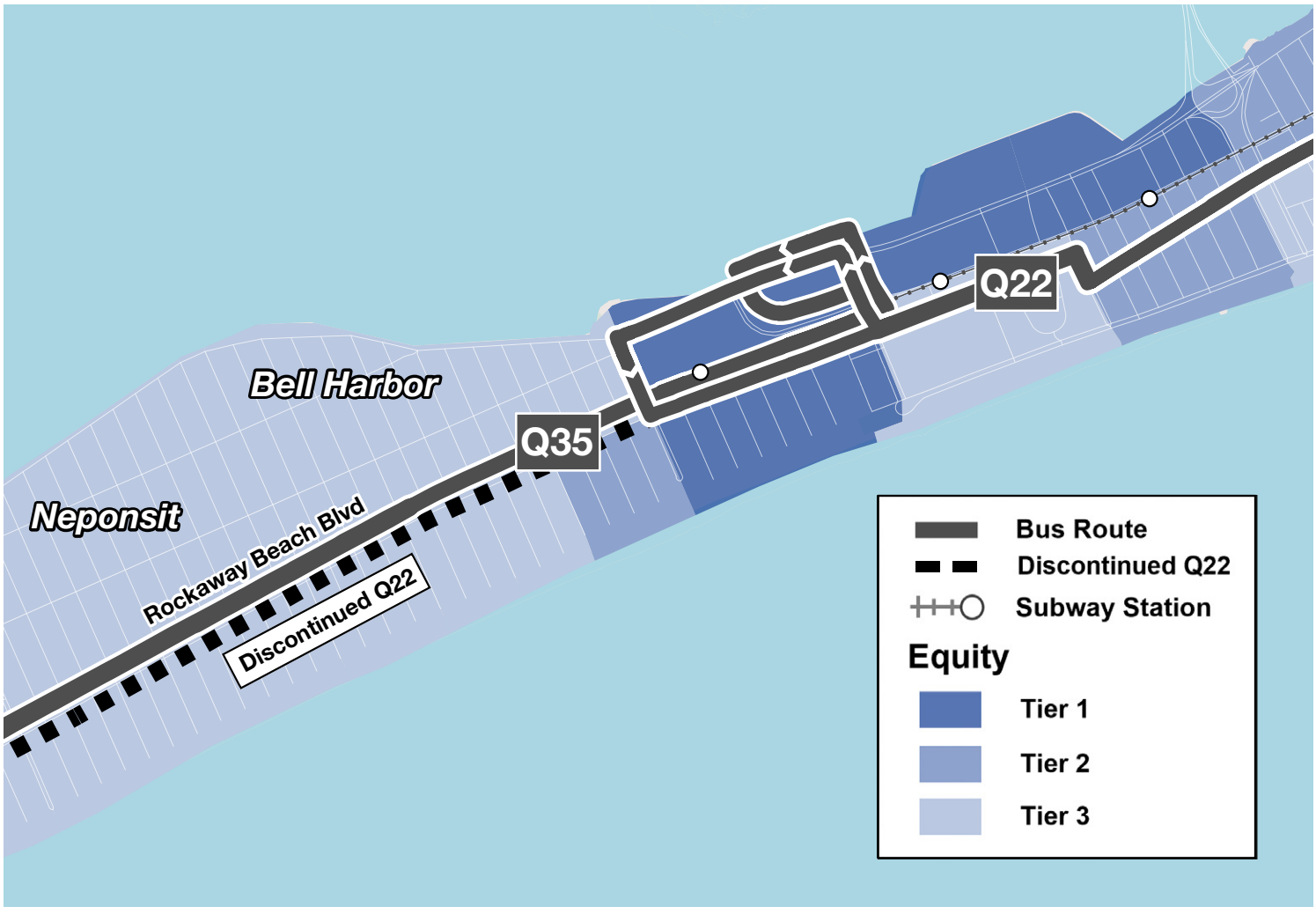
Within the existing network, there are routes that offer redundant service, a situation that the Redesign aims to eliminate. For example, the proposed **Q25** would absorb existing **Q34** trips and provide better service along Kissena and Parsons Boulevards, not only streamlining the network but also improving service on one of the Queens routes that serves the highest number of residents living below the poverty line. The remaining portion of the **Q34** not included in the **Q25** proposal would be served by the new **Q61**, improving reliability and introducing weekend service to Linden Hill, an area of Flushing with moderate to significant equity concerns.



Shorten Routes

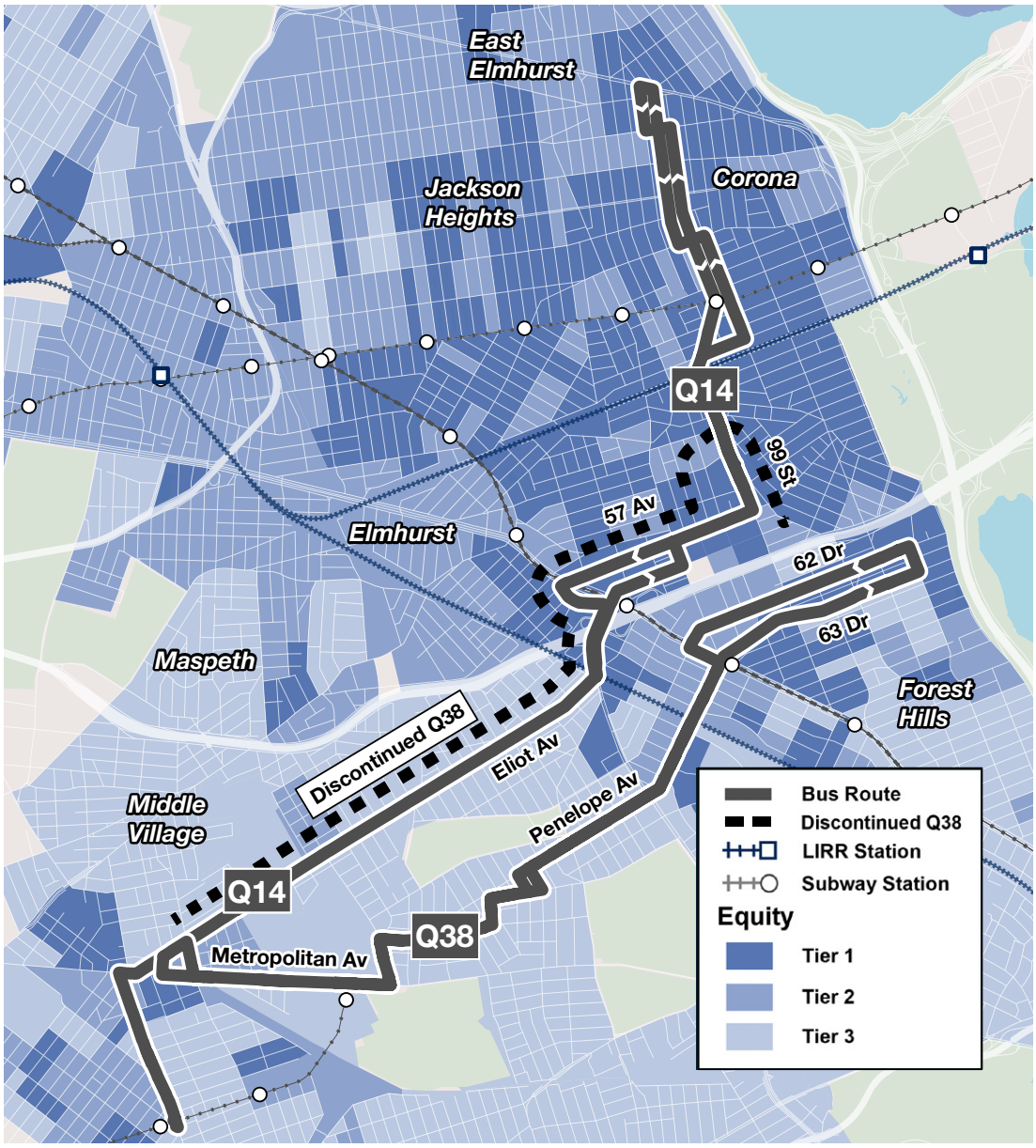
Shorter bus routes typically boast better reliability as they cover reduced distances, minimizing exposure to traffic congestion, accidents, and other potential delays. An example of this approach is seen in Rockaway Park, with the **Q22** being truncated at Beach 116 St. Due to low ridership along Rockaway Beach Boulevard west of Beach 116 St, the route is proposed to be shortened on its western end, with the **Q35** realigned to cover this segment. The portion of the existing **Q22** that will remain predominately serves communities that are in Equity Tier 1 and 2 areas. The residents living in these communities should expect to see increased reliability due the elimination of potential delays along the discontinued portion of the route.

Additionally, the eastern end of the **Q22** will see an extension to the Far Rockaway LIRR station, enhancing connectivity for Rockaways residents, where most residents have a commute longer than 45 minutes. This new connection will provide residents with easier access to other boroughs via a discounted LIRR Far Rockaway Ticket, increase access to new opportunities, and/or shorten their commute.



Split Routes

A good example of a route split aimed at enhancing reliability is the **Q38**. Currently operating as a loop, the **Q38**'s start and end points are approximately a third of a mile apart, in Rego Park and Corona – neighborhoods within Tier 1 and 2 areas. To enhance service reliability, the proposed plan involves splitting the **Q38** into two routes. Service along 62/63 Drs, Penelope Avenue, Juniper Valley Rd, and Metropolitan Avenue, between Rego Park and Maspeth, is proposed to be maintained. The northern part of the **Q38** would be replaced by the proposed **Q14**, a new route that would also serve the northern segment of the existing **Q23** in Corona and East Elmhurst and the existing **Q39** on Forest Av, thereby establishing a new connection between East Elmhurst and Ridgewood and expanding access for residents within several Tier 1 block groups.



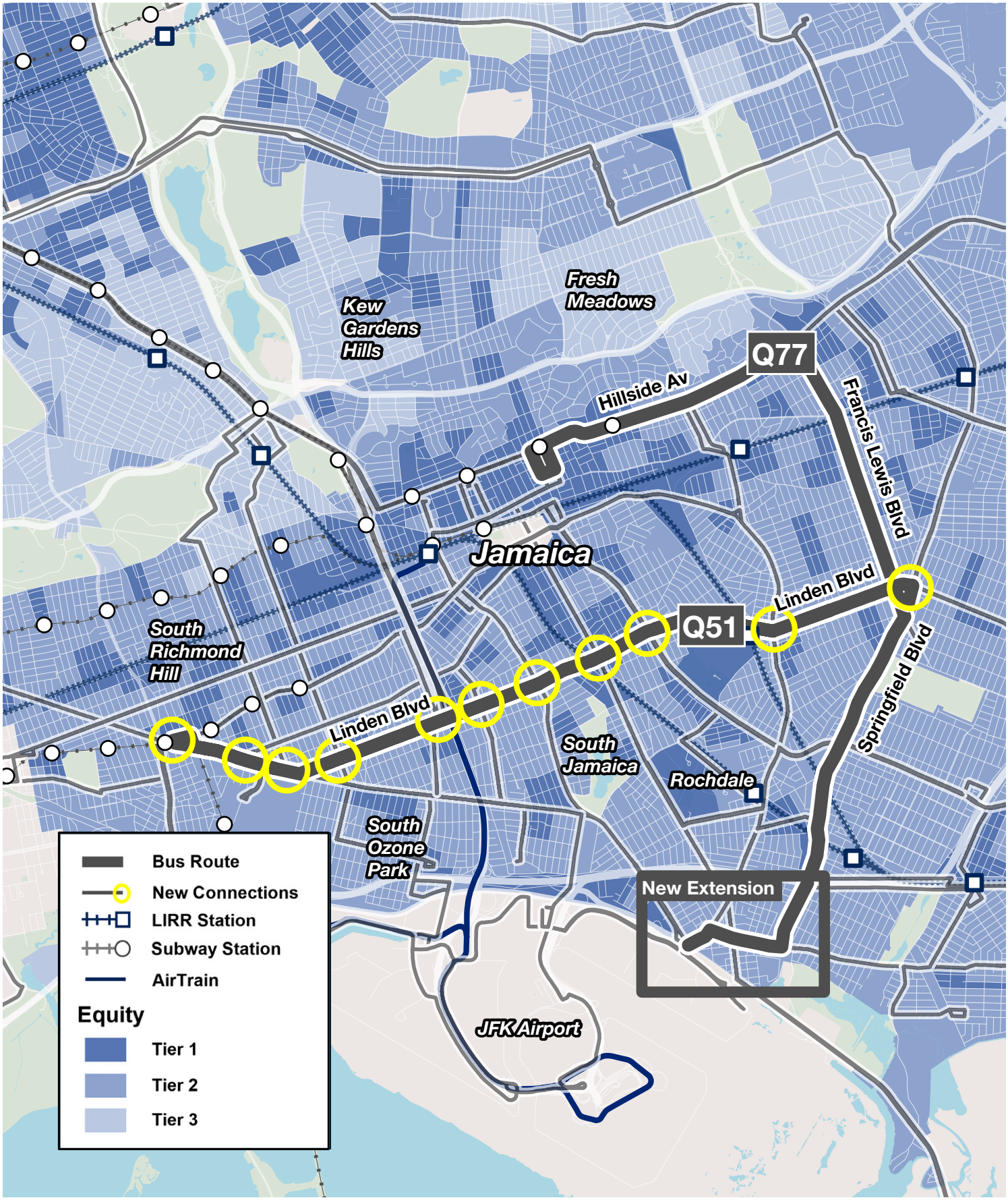
Improve Coverage

Route Extension

An important strategy the Redesign incorporates to address gaps in service and improve connectivity is extending routes. The proposed extension of the **Q77** is a good example of the strategy, designed to serve a portion of a corridor with moderate and significant equity concern currently lacking bus service. This extension would bridge the gap on Springfield Boulevard south of Conduit Avenue and on 147th Avenue west of Guy R. Brewer Boulevard, improving accessibility for residents in these underserved areas, connecting to additional routes, such as the Guy R. Brewer Boulevard routes (**Q111**, **Q113**, and **Q114**), and facilitating a connection to JFK Airport via the **Q3** and **Q6**.

New Routes

Another approach the Redesign used to address gaps in the network includes the introduction of new routes. The **Q51** is a new east-west route in southeast Queens that serves Tier 1 and 2 equity areas and would facilitate connections with numerous bus routes and the A train at Rockaway Boulevard, eliminating the need for passengers to travel to downtown Jamaica for transfers and providing enhanced access across the borough.


Kew Gardens Hills
Fresh Meadows
Q77
Hillside Av
Francis Lewis Blvd
Jamaica
Linden Blvd
Q51
South Richmond Hill
Springfield Blvd
Linden Blvd
South Jamaica
Rochdale
South Ozone Park
New Extension
JFK Airport
Bus Route
New Connections
LIRR Station
Subway Station
AirTrain
Equity
Tier 1
Tier 2
Tier 3

Connect to Bus Priority

NYC DOT has conducted an analysis of major Queens corridors to identify streets where future bus priority treatments would have the greatest impact for Queens bus riders. These treatments aim to increase reliability and bus speeds on key corridors, enabling more efficient travel, reducing delays, and providing customers with more predictable arrival times. Most projects completed so far traverse Tier 1 and 2 areas, such as those along Northern Boulevard, which saw an increase of up to 25% in bus speeds. Main St / Kissena Boulevard boasted a 44% increase in bus speeds, while Archer Avenue, a predominantly Tier 1 area, exceeded expectations, showing up to a 57% increase in bus speeds.

Future Opportunities For An Even More Equitable Network

While the Redesign prioritized equity throughout the entire project, some proposals in several Tier 1 and 2 areas could not move forward due to resource constraints. However, these remain important additions to the network and should be revisited when resources become available. These proposals include:

Q43 Extension to Long Island Jewish Hospital

In the New Draft Plan, the **Q43** was proposed to be extended to Long Island Jewish Hospital. This extension would have created a new direct connection from Jamaica to the hospital, reducing the number of transfers required for passengers from Southeast Queens, an area of moderate and significant equity concern. The proposal was withdrawn due to resource constrains and lack of layover space at the hospital, but it is currently being investigated as an investment that will potentially be implemented separately from the Redesign.

Q44 Extension to Fordham Plaza

Proposed in the New Draft Plan but withdrawn due to resource and operational challenges, this extension would connect Queens to Fordham University, Metro-North, multiple Bronx bus routes, and other key destinations. It was particularly popular among students commuting from Queens to schools in the Bronx.

Q51 to Gateway Center

Initially included in both the Original and New Draft Plans, this interborough route would connect Cambria Heights to the Gateway Center mall in East New York via Linden Boulevard. Though the **Q51** as currently proposed still provides vital connections, restoring the original routing to Gateway Center would significantly enhance its value to Southwest Queens residents. This proposal will be reconsidered as part of the ongoing Brooklyn Bus Network Redesign.

Q52 SBS Extension in the Rockaways

While an extension to Beach 50th Street is proposed, longer extensions were deferred due to resource limitations. With the ongoing redevelopment of the Rockaways and expected population growth with increased availability of affordable housing options, a further extension of the **Q52** remains a promising option to meet future demand and reach more areas of significant equity concern.

Q78 Bell-Springfield Boulevards Route

Proposed in earlier drafts but omitted from the Proposed Final Plan and Addendum due to budgetary constraints, this route would provide continuous service along Springfield and Bell Boulevards, connecting Laurelton to Bayside. It would enhance connectivity across Southeast and Northeast Queens, serving schools, Queensborough Community College, and connecting to numerous other bus routes.

These proposals would represent valuable opportunities to further enhance equity within the Queens bus network as resources become available.

Conclusion

In a city where 85% of jobs are located within walking distance of rail and subway systems, the MTA serves as a critical lifeline, connecting residents to jobs, education, and essential services. In Queens, where residents often face longer commutes and limited access to subway and rail compared to other boroughs, the bus network plays an important role, especially for historically marginalized communities.

Equity has been central to the MTA's mission and was a driving principle throughout the Queens Bus Network Redesign project. Our analysis demonstrates that critical route changes were focused in areas with greater equity concerns, ensuring that these communities continue to have strong transit access. The improvements to both the all-day frequent network and overnight network reflect the MTA's dedication to directing transit investments toward the populations that rely on them the most, while also enhancing service across the entire network. These efforts highlight the agency's commitment to creating a more equitable and accessible transit system for all.

Appendix E Route Improvements Summary

Route	Schedule		Routing						NYC DOT Priority Corridor
	More Frequent	Extend Span	More Direct	Simplify Variants	Combine Routes	Shorten Routes	Split Routes	Extend Routes	
B57									
B62								●	
Q1	●							●	●
Q2									●
Q3	●								●
Q4									●
Q5									
Q6				●					●
Q7	●	●	●					●	
Q8	●								●
Q9	●								●
Q10				●					
Q11	●			●	●				●
Q12			●						●
Q13									●
Q14									●
Q15			●		●				
Q16		●	●	●					●
Q17									●
Q18									
Q19									●
Q20				●	●				●
Q22						●		●	
Q23		●	●						●
Q24									
Q25	●			●	●				●
Q26	●	●	●					●	
Q27			●	●					●
Q28									
Q29									
Q30				●					●
Q31			●						●
Q32			●						●
Q33								●	
Q35			●						
Q36	●	●		●					●

Bolded route numbers are new with Queens Bus Network Redesign

Appendix E Route Improvements Summary

Route	Schedule		Routing						NYC DOT Priority Corridor
	More Frequent	Extend Span	More Direct	Simplify Variants	Combine Routes	Shorten Routes	Split Routes	Extend Routes	
Q37			●	●					
Q38							●		
Q39			●						
Q40									●
Q41			●						●
Q42									●
Q43				●					●
Q44									●
Q45									●
Q46				●					●
Q47		●	●			●		●	●
Q48				●					●
Q49									
Q50	●	●							
Q51									
Q52			●					●	●
Q53									●
Q54	●			●					●
Q55									
Q56									●
Q58									●
Q59									●
Q60			●						●
Q61									●
Q63			●						●
Q64									
Q65						●			●
Q66				●					
Q67	●		●						
Q69			●			●			●
Q70									●
Q72									●
Q74									
Q75	●			●					
Q76			●						●
Q77								●	●

Bolded route numbers are new with Queens Bus Network Redesign

Appendix E — Route Improvements Summary

Route	Schedule		Routing						NYC DOT Priority Corridor
	More Frequent	Extend Span	More Direct	Simplify Variants	Combine Routes	Shorten Routes	Split Routes	Extend Routes	
Q80	●	●	●	●					
Q82									●
Q83				●					●
Q84									●
Q85				●					●
Q86				●				●	●
Q87				●					●
Q88									
Q89	●			●					●
Q90			●	●					●
Q98			●						●
Q100			●						●
Q101			●						
Q102			●			●			
Q103									●
Q104									
Q110			●	●				●	●
Q111				●					
Q112								●	
Q113			●						
Q114			●	●					
Q115	●			●					

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