

Nassau Hub Innovation District: *Transforming the Nassau Hub Biotech Park into a Competitive, 21st Century Innovation District*

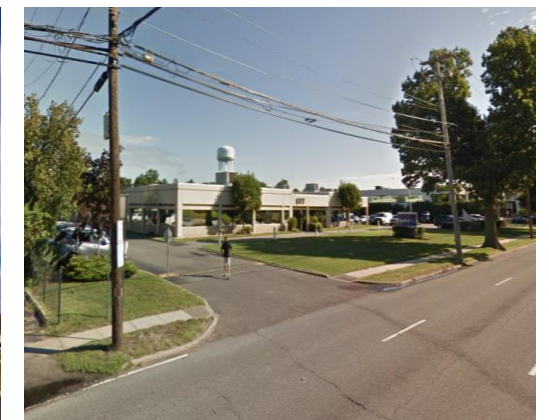
Executive Summary

The redevelopment of the Nassau Coliseum is an exciting first step in transforming the Coliseum area into a biotech hub.

Nassau County's proposal to transform the Coliseum site into a biotech park is a first step to attract well-paying knowledge industry jobs, grow the biotech and high tech industries, and redevelop an underutilized site. The plan leverages the presence of the County's academic, medical, and research institutions while building on top of Forest City Ratner's (FCRC) redevelopment activities underway.

However, as currently envisioned, the Plan lacks the key components to transform the site into a truly competitive, 21st century innovation district. Without mixed use development and amenities, walkable streets, and robust transit service, the Biotech Park Plan mirrors the outdated mix of uses and density of Long Island's 20th century office parks.

The Biotech Park's development proposal is insufficient to foster the growth of the biotech sector and generate the needed workers, residents, and visitors to support a thriving innovation district. The Plan lacks the critical mass, appropriate mix of uses, and transportation improvements needed to create a competitive district that attracts talented workers and businesses, and generates the greatest economic impact for the County and the region.

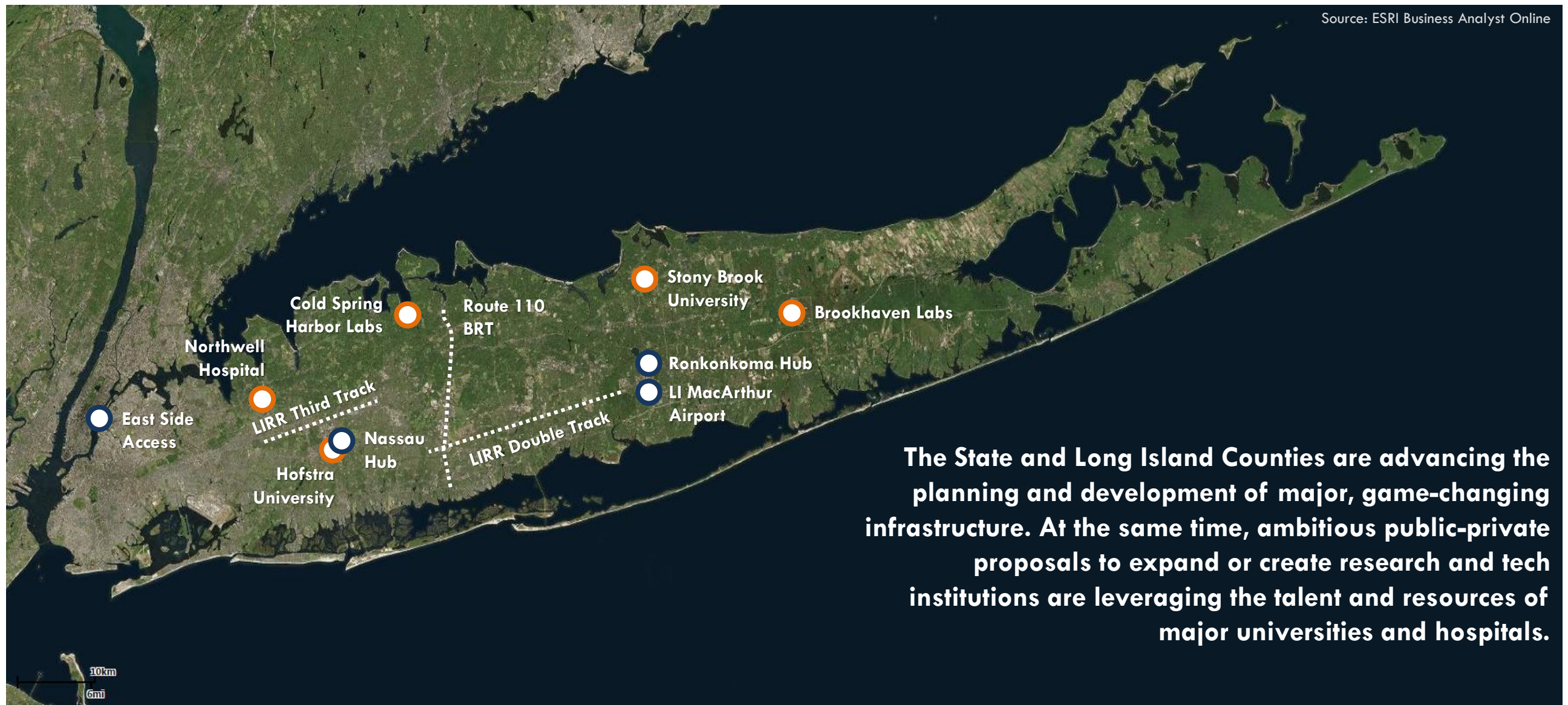


The Nassau Hub Biotech Park Plan combines Forest City Ratner’s Phase 1 plan with future phases of development resulting in the creation of 3.3 M SF at total build out.

Nassau Hub Biotech Park Plan

Category	Existing + FCRC Phase 1	Future Phases	Total Build Out
Retail / Recreation	268 K	377 K	645 K
Hospitality	573 K	1.2 M	1.7 M
Arena	416 K	0	416 K
Multifamily	0	0	0
Office / R&D / Flex	0	425 K	425 K
TOTAL	1.3 M	2.0 M	3.3 M
Parking Spaces (estimated)	5,500	1,100	6,600

The Plan comes during a period of significant investment on Long Island.

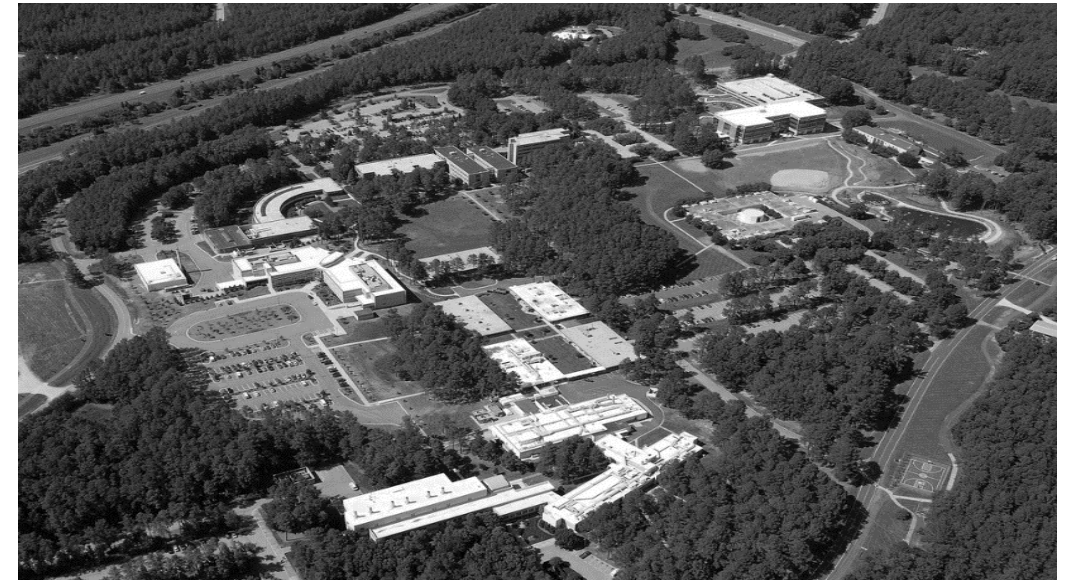


Once the exclusive domain of suburban office parks, research and development is now increasingly occurring in mixed-use, walkable, and transit-rich innovation districts.

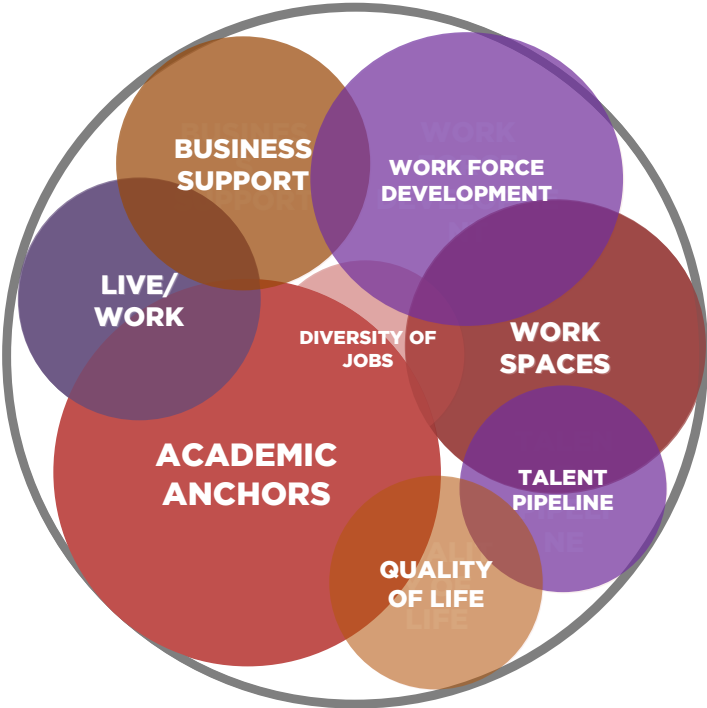
In the 1950s and 1960s, the life sciences industry was located in research parks and suburban corporate campuses. These research parks responded to the needs of post-war America which sought to separate economic activity from cities to newly-built suburbs. Research parks like Bell Labs and Research Triangle Park were conceived as campuses dedicated exclusively to the development and commercialization of scientific research.

The research park concept is being replaced by the modern innovation district, where businesses and research activity is clustered in close proximity to a mix of land uses and transit options. Innovation districts are 24-7 areas where young, talented workers seek an amenity-rich, walkable mixed use neighborhood.

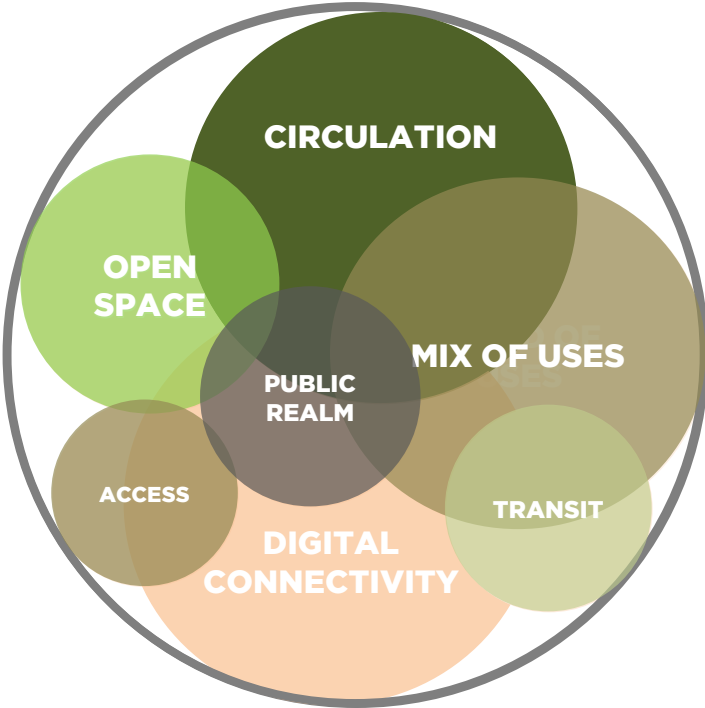
Many research parks are now attempting to reposition themselves to compete with more urban innovation districts. Innovation districts around the country are competing to attract research institutions and companies (as well as their private capital and public research grants), recognizing that workers at these firms desire vibrant neighborhoods to live, work, and play.



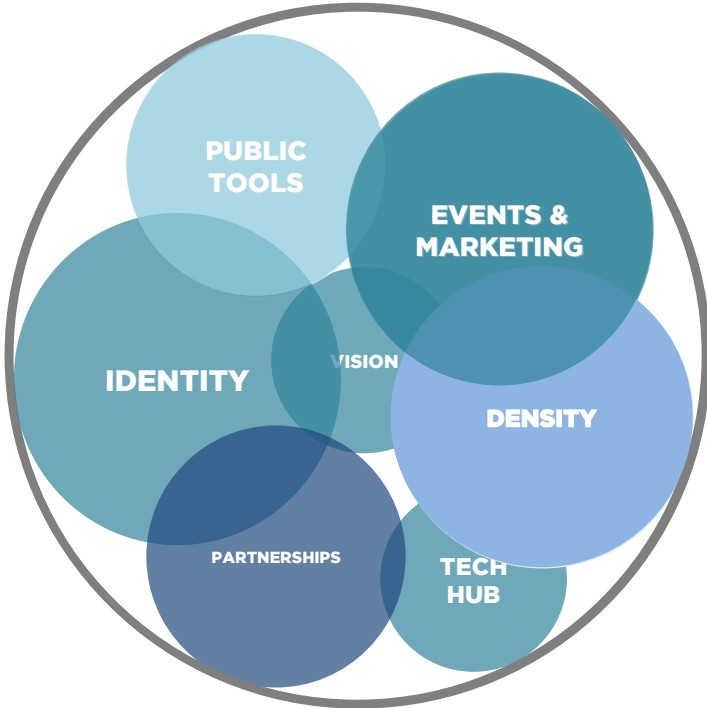
Innovation districts derive competitive advantages from an interrelated set of assets.



PEOPLE
Talent
Collaboration

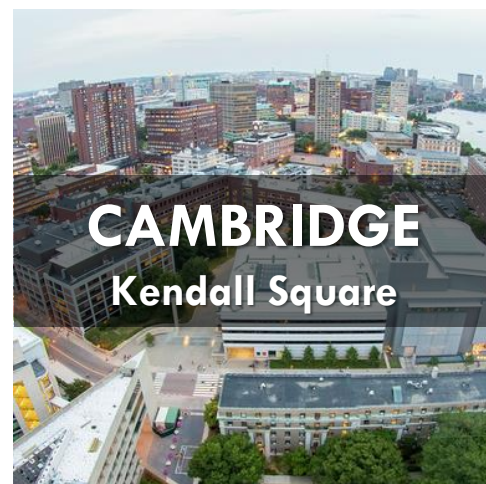
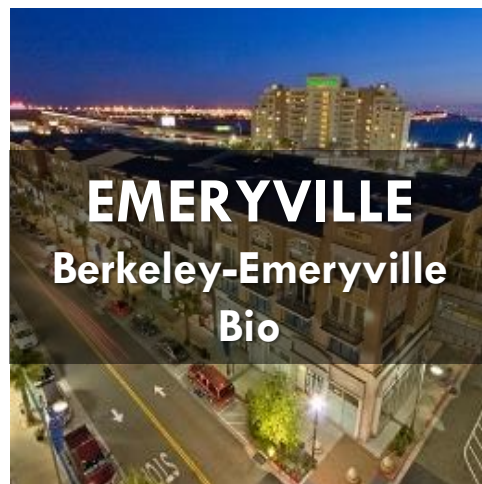


PLACES
Infrastructure
Urban Realm



PROGRAMS
Partnerships
Tools

The current Plan lacks the critical mass, convenient transit options, appropriate mix of land uses, and amenities that contribute to the success of six leading innovation districts examined across the country.



Lessons for the Biotech Park Plan:

- **Developing new multifamily housing at the Coliseum site can address the region's supply gap** and attract and retain young highly educated workers.
- **Public transit improvements would help create a pedestrian-friendly district**, mitigating congestion and increasing accessibility.

The Plan lacks the appropriate density and mix of uses that characterize successful, 21st century innovation districts.

55%

Office

33%

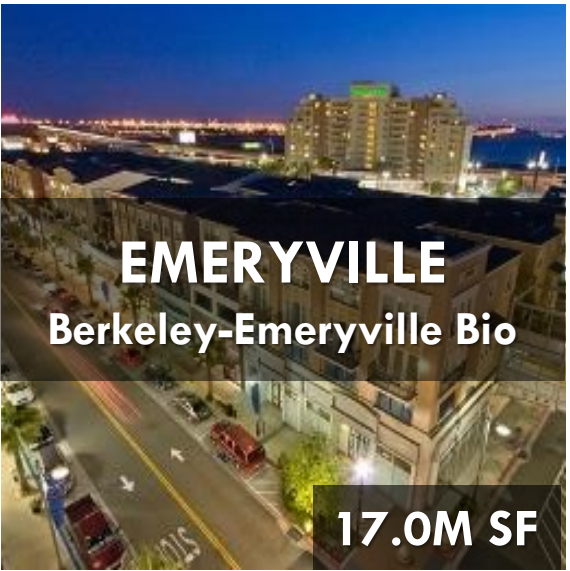
Multifamily

7%

Retail/Entertainment

5%

Hospitality



13%

Office

0%

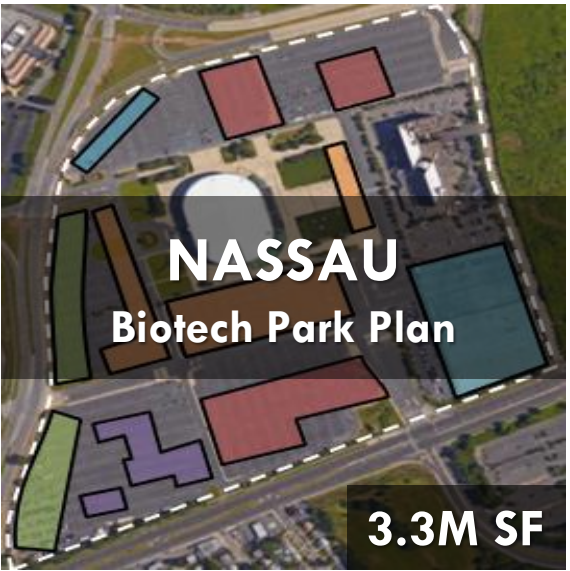
Multifamily

33%

Retail/Entertainment

54%

Hospitality



The proposed Plan's 3.3M SF of development would be insufficient to foster the growth of the biotech sector and generate the needed workers, residents, and visitors to support a thriving innovation district.

The Nassau Hub Innovation District Plan would increase the Biotech Park's proposed 3.3M SF of development to 7.1M SF, including 2.2M SF of new multifamily housing and an additional 3.4M SF of office, flex, and R&D space currently missing in the County's plan.



The lack of robust transit, wide roadways, and auto-oriented planning results in poor connectivity in the Nassau Hub area.

The Innovation District Plan would improve public transportation in the Hub area by creating a new Bus Rapid Transit service, the Hubway, which would connect the Coliseum site to the Mineola LIRR Station by transforming unused LIRR rights-of-way into a dedicated busway. The Plan would also enhance existing NICE bus service through low-cost modifications to routing and schedules.



The Nassau Hub Innovation District Plan can be achieved by investing in the Hub area’s infrastructure, developing a sound governance and financing plan, and amending Town regulations to allow more density.

Infrastructure

- Explore **improvements to existing NICE bus service.**
- Conduct feasibility study to explore **transit service along the Mineola Spur and the Secondary.**
- Enhance pedestrian and bike access with **streetscape improvements.**
- Develop **transportation demand management measures.**

Governance & Financing

- Gather key stakeholders and representatives to **initiate planning and governance for the Hub.**
- **Establish a board of directors and umbrella organization** with a mandate to govern the innovation hub and seek funding.
- **Create a brand for the Hub area** that draws new investment and builds an identity for the Innovation District.
- Develop a plan that will generate **ongoing private and public funding and support.**

Regulatory Process

- **Amend zoning to accommodate multifamily housing** and increased density.
- **Revise the proposed mix of uses** to increase residential and office development.
- **Modify parking requirements.**

Successful innovation districts span a larger geographic area than the Hub site. The Nassau Hub Innovation District Plan has the potential to spur additional development outside the 77-acre site boundaries.



ST. LOUIS
Cortex Innovation

200 acres

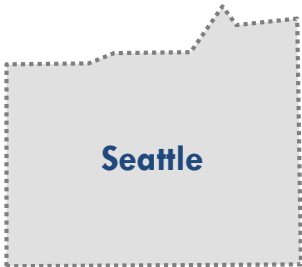


St. Louis

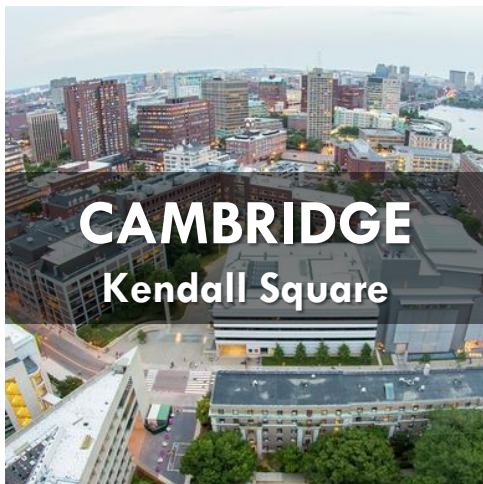


SEATTLE
South Lake Union

230 acres



Seattle

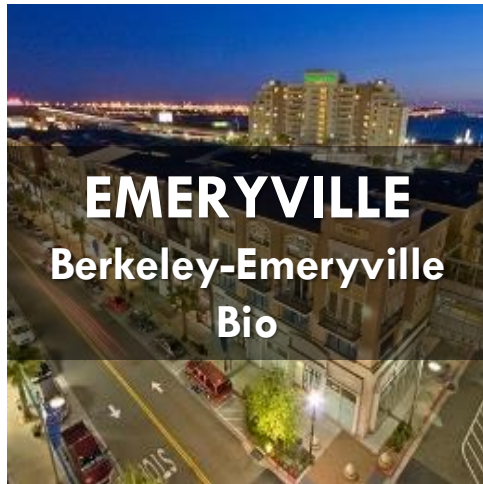


CAMBRIDGE
Kendall Square

280 acres

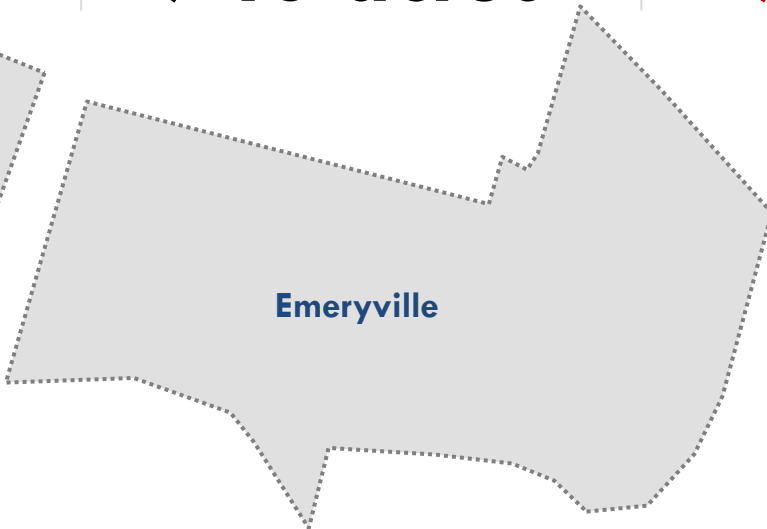


Cambridge



EMERYVILLE
Berkeley-Emeryville
Bio

740 acres



Emeryville



NASSAU HUB
Innovation District

77 acres



Nassau Hub
Innovation District

Leveraging these investments, the Nassau Hub Innovation District can generate \$3.4B in economic activity to the State, over 14K new jobs at average annual earnings of \$65K, and \$47M in tax revenue to the County.

The Nassau Hub Innovation District Plan would create more jobs, generate more Statewide economic activity, and add more County tax revenue than the Biotech Park Plan. And like many successful innovation districts across the country, the Innovation District program would catalyze additional development beyond the Coliseum site, into the broader Hub area.

Investments in public transportation, regulatory changes to allow more density, and regional coordination have the catalytic and transformative power to spur the long-term success of the Nassau Hub Innovation District and reshape the Hub area.

14,300

9,100 More Jobs Created

\$30 M

\$21 M Additional Sales Tax Revenue to Nassau County

\$3.4 B

\$2.4 B Additional Economic Impact on NY State

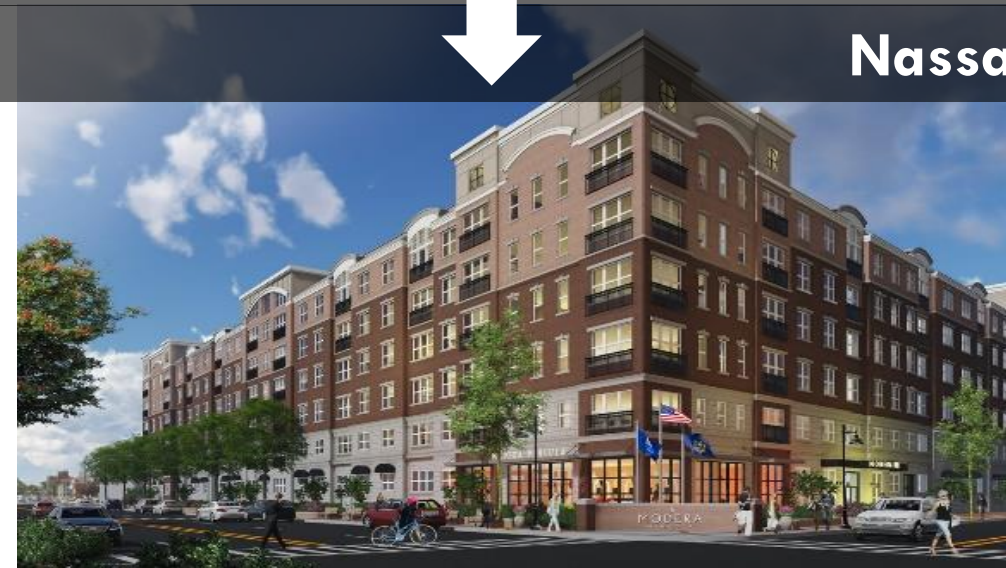
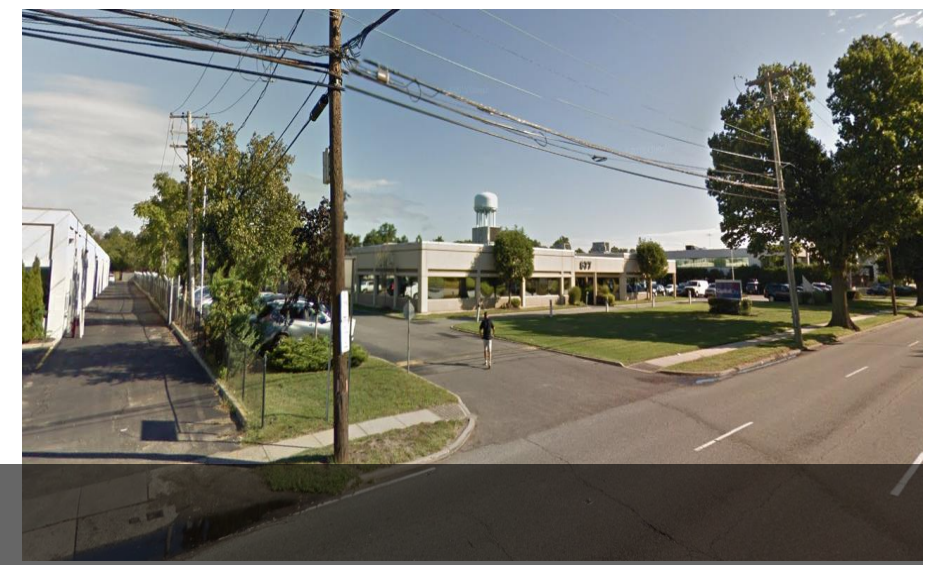
\$47 M

\$29 M Additional Property Tax Revenue for Nassau County, Hempstead and Uniondale Schools

Collectively, these actions would transform an area with outdated land uses, poor transportation connectivity, and underutilized and disconnected parcels into a job-producing 21st century innovation district.



Nassau Hub Biotech Park Plan



Nassau Hub Innovation District Plan

**After numerous false starts, the Nassau Hub Biotech Park Plan
is a positive step for the County, Long Island, and NY State**

The redevelopment of the Nassau Coliseum is an exciting first step in transforming the Coliseum area into a biotech hub.

- In the fall of 2015, Nassau County Executive Ed Mangano sought **\$225 million in State funding** for the creation of a Biotech Park at the Nassau Coliseum site.
- In March 2017, Forest City Ratner and Nassau County completed a **\$165 million renovation of the Nassau Coliseum.**
- The Biotech Park plan would **leverage the presence of nearby academic, institutional, and research institutions** to create new biotech and research jobs, building off current development plans led by Forest City Ratner (FCRC) at the Coliseum site.



Source: Newsday (2015; 2017)

Nassau County has proposed a plan to transform the Coliseum area into a biotech hub.

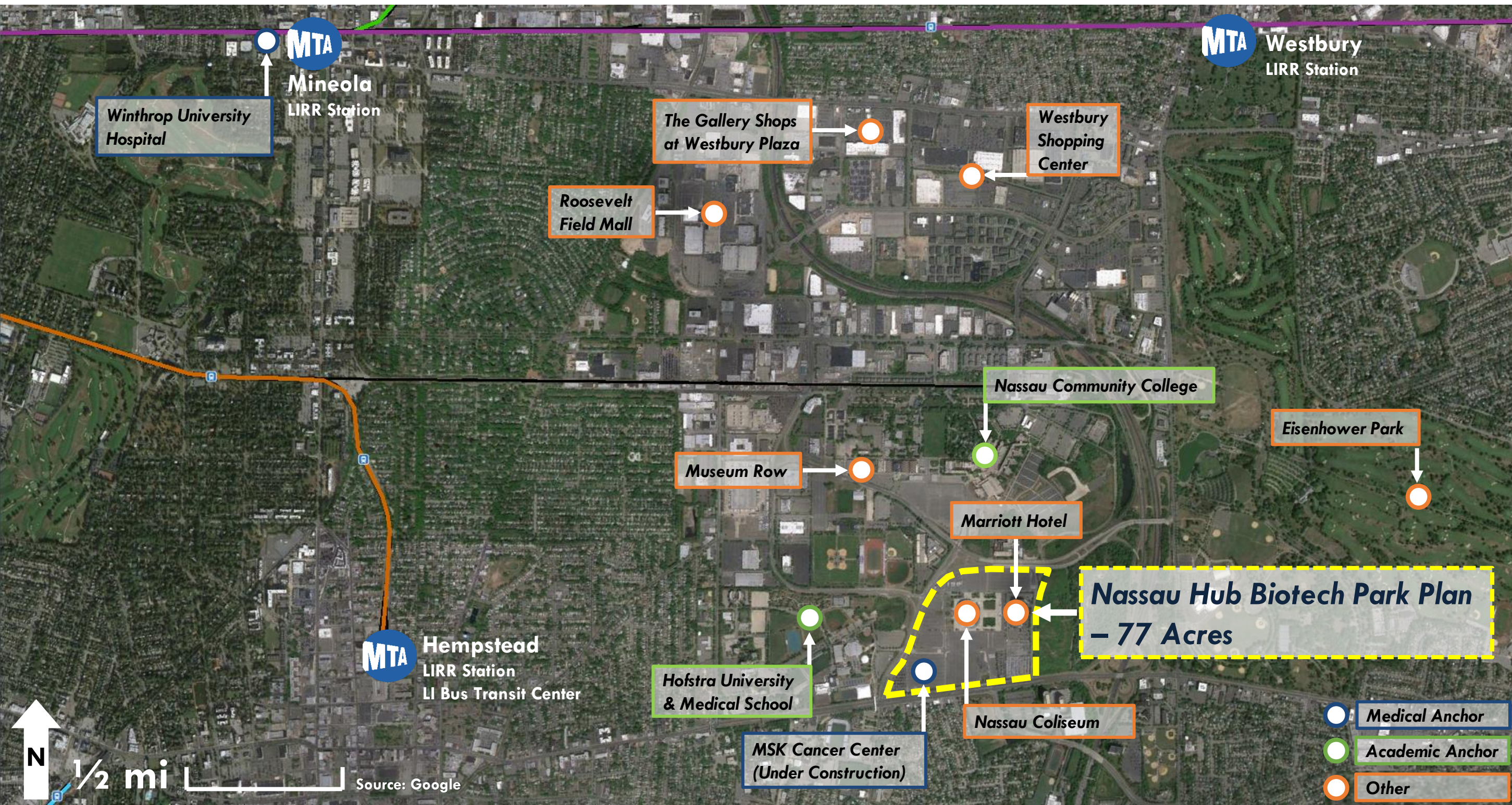
Since the County's request was issued, **New York State and the private sector has committed significant funding** to advance the plan:

- **\$140 million committed by Memorial Sloan Kettering (MSK)** to develop a cancer treatment center and parking structure.
- **\$85 million awarded by the State's Empire State Development Corporation** to the County to develop necessary infrastructure, including two parking garages, to support growth at the Coliseum site.

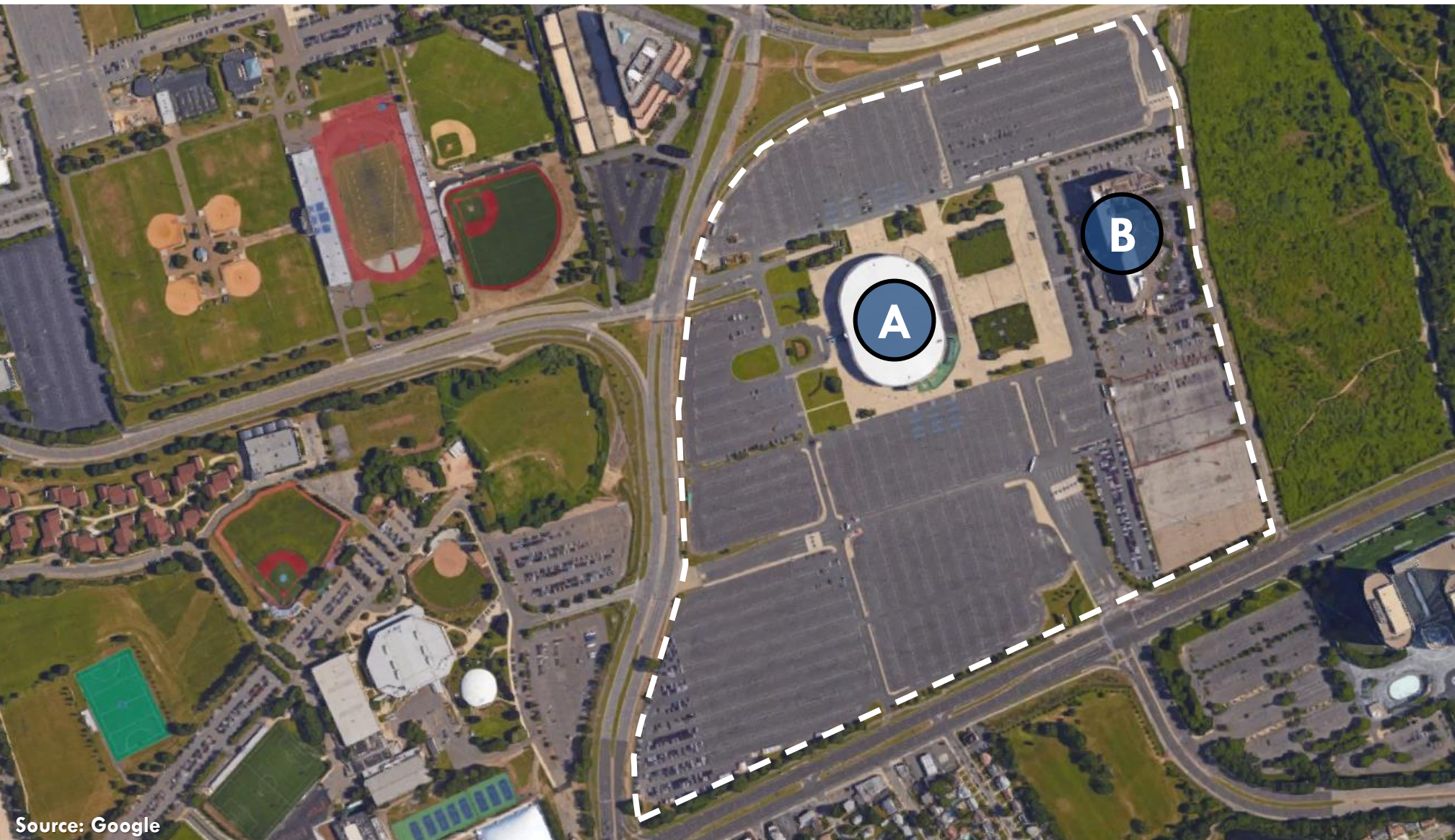
The Plan has broad and ambitious goals.

- 1 Create attractive and well-paying jobs,** catalyzing economic activity in the County and Long Island.
- 2 Expand high-tech and biotech cluster,** fostering the growth and development of well-paying industries.
- 3 Promote successful redevelopment of the Coliseum site,** reactivating disconnected and underutilized spaces and improving access and mobility.

The 77-acre Plan aims to leverage the presence of nearby academic, medical, and research partners.



The Biotech Park Plan builds on existing uses, including the Nassau Coliseum arena and the Long Island Marriott Hotel.



Existing Uses – 1M SF

**Nassau
Coliseum (A)**

**Marriott
Hotel (B)**

Source: Google

Phase 1 of Forest City Ratner’s Nassau Events Center (NEC) conceptual master plan proposes to add nearly 270,000 SF of retail and recreation spaces that will bring the total development to **1.3M SF**.



Existing Uses – 1M SF

**Nassau
Coliseum (A)**

**Marriott
Hotel (B)**

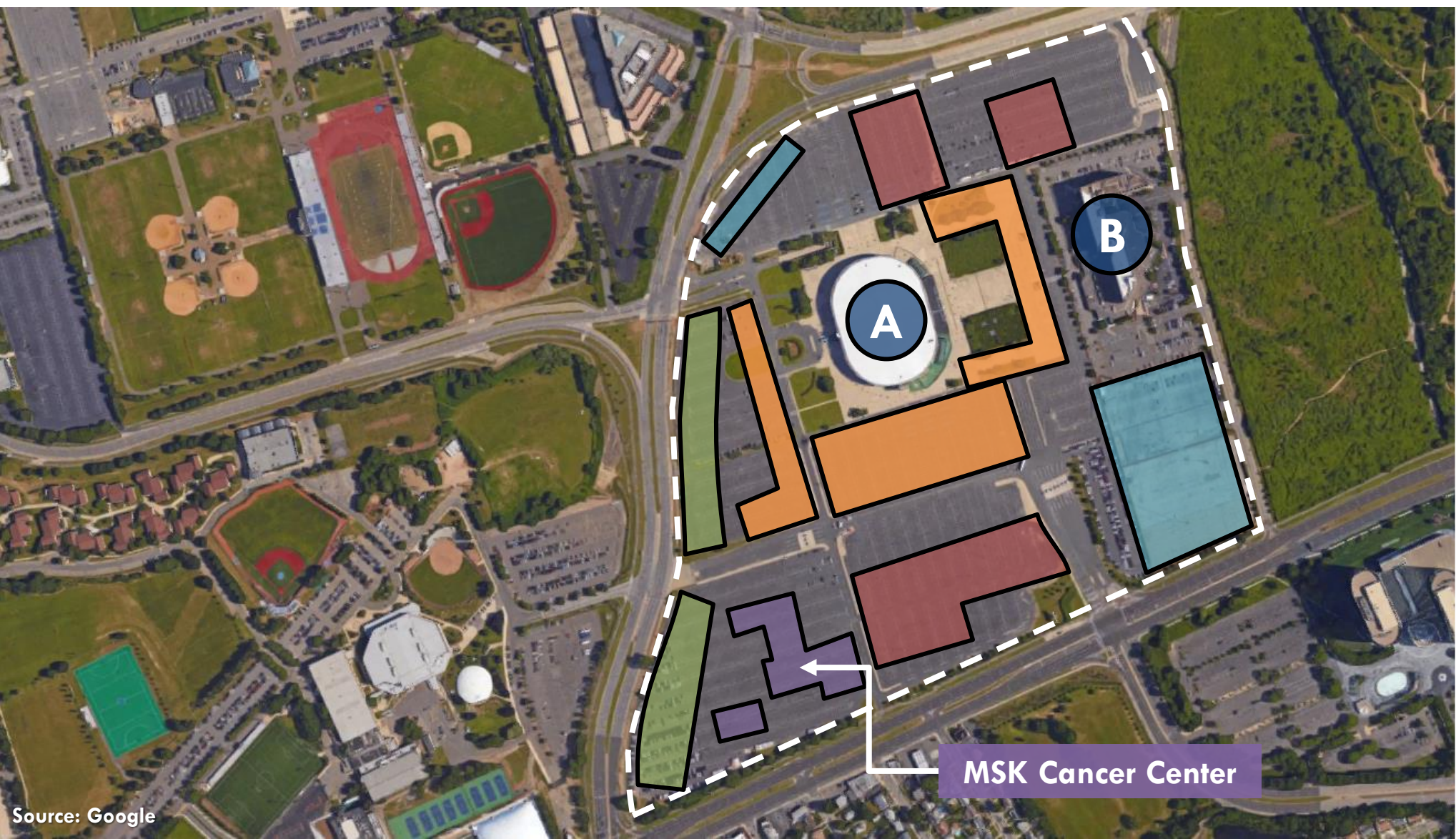
FCRC Ph. 1 – 270K SF

Retail

Recreation

TOTAL = 1.3M SF

Future phases, including the Memorial Sloan Kettering Cancer Center, will drive total build-out to **3.3M SF**, not including structured parking.



Existing Uses – 1M SF

**Nassau
Coliseum (A)**

**Marriott
Hotel (B)**

FCRC Ph. 1 – 270K SF

Retail

Recreation

Future Ph. – 2.0M SF

Office/R&D

Medical

Retail

Recreation

Hotel

TOTAL = 3.3M SF

The Nassau Hub Biotech Park Plan combines FCRC’s Phase 1 plan with future phases of development.

Nassau Hub Biotech Park Plan

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The MSK Cancer Center – currently under construction – will attract healthcare and biotech anchor tenants and well-paying jobs.



Memorial Sloan-Kettering
Cancer Center

The Best Cancer Care. Anywhere.

114,000 SF

STATE-OF-THE-ART RESEARCH & TREATMENT CENTER

220

NEW JOBS

\$140 M

TOTAL PRIVATE INVESTMENT

2019

OPENING DATE

Sources: Politico (2016); Newsday (2015); Memorial Sloan Kettering (2017)

The Plan comes during a period of significant public investment on Long Island.



Public funding and support are also focused on expanding the biotech research and tech sector on Long Island.



However, will the Nassau Hub Biotech Park Plan achieve its goals as currently proposed?

- 1 Create attractive, well-paying jobs.** The Plan proposes to create 8,500 new jobs. *Does the Plan generate enough high-quality, knowledge-intensive jobs to catalyze the biotech ecosystem in Long Island? Does the Plan create an environment that appeals to a young, talented workforce?*
- 2 Expand high-tech and biotech cluster.** The Plan will expand and build upon existing institutions and hospitals. *Does the Plan truly take advantage of the area's institutional assets and infrastructure investments and provide enough space to allow for the expansion of this growing sector? Will the Plan strengthen Long Island's competitive position to compete with other biotech clusters?*
- 3 Promote successful redevelopment of Coliseum site.** The Plan proposes 3.3 million SF of development and 6,500 parking spaces. *Does this proposal generate enough critical mass to reshape an auto-oriented area?*

Source: 8,500 jobs (LIREDC); 3.3 M SF, 6,500 parking spaces (Nassau Events Center Expanded Environmental Assessment – FCRC NEC EAF)

**What is the model of a successful 21st century
innovation district?**

Once the exclusive domain of suburban office parks, research and development is now increasingly occurring in mixed-use, walkable, and transit-rich innovation districts.



THEN: 20th Century Research Campus



NOW: 21st Century Innovation District



Suburban research parks responded to the needs of postwar America.



Post-war, the life sciences industry re-located to university research parks and built suburban corporate campuses:

- New research parks modeled themselves on successful precedents, such as Stanford Research Park (1951), Bell Labs (1957), Research Triangle Park (1959), and Cummings Research Park (1962).

Research parks reflected broader economic trends:

- Decentralization of economic activity from cities to newly-built suburbs.
- Desire to separate land uses.
- Falling costs of transportation and communication, which allowed companies to relocate R&D activity.
- Conceived as a campus dedicated exclusively to the development and commercialization of scientific research.



Innovation districts respond to the needs of 21st Century businesses.



What are innovation districts?

- Research activity and funding is increasingly flowing to innovation districts, where businesses and research activity is clustering in close proximity to a mix of land uses and transit options.
- Innovation districts reflect partnerships between university or medical anchors and companies involved in early-stage research and commercialization.



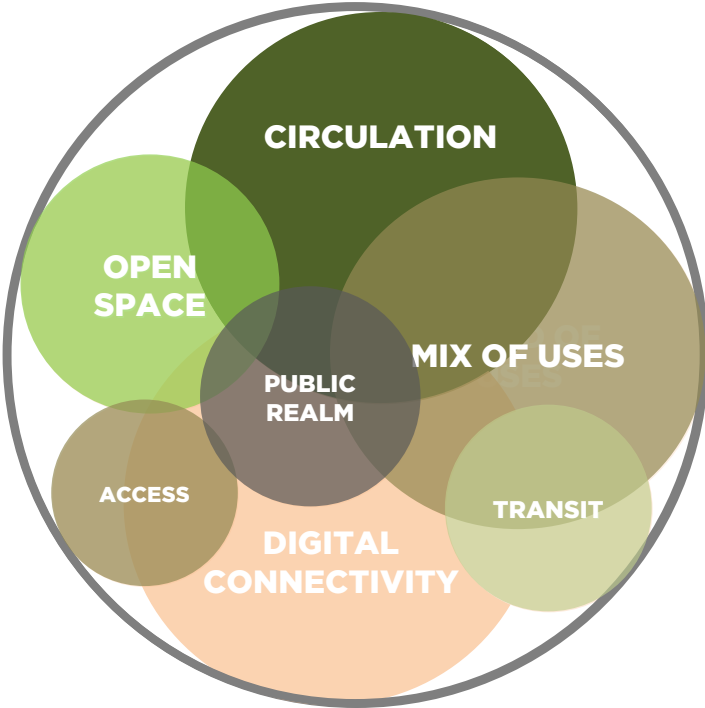
What is different about innovation districts?

- Innovation districts respond to workers who increasingly prefer to live and work in walkable, amenity-rich, and mixed-use neighborhoods.
- Research activity in innovation districts is increasingly funded by private venture capital instead of federal grants.
- Many research parks are now attempting to reposition themselves to compete with more urban innovation districts.

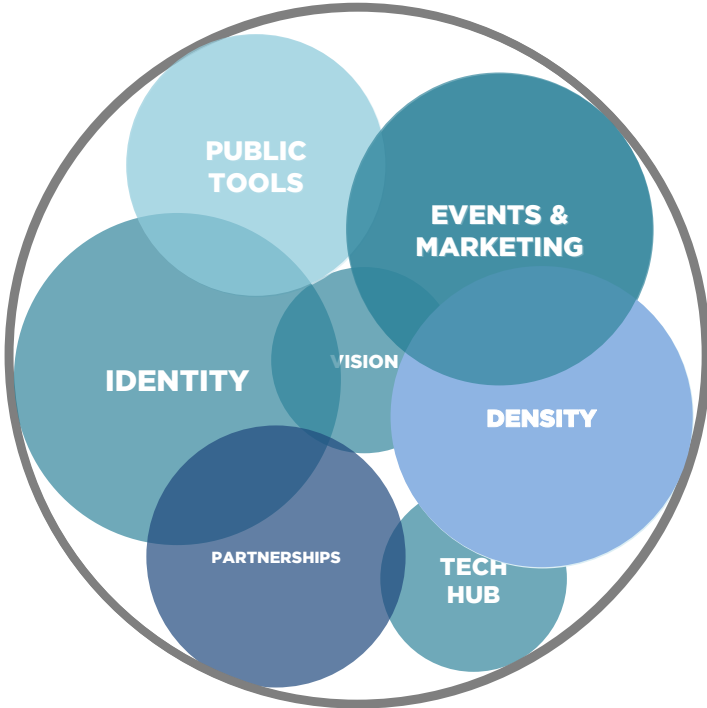
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Talent
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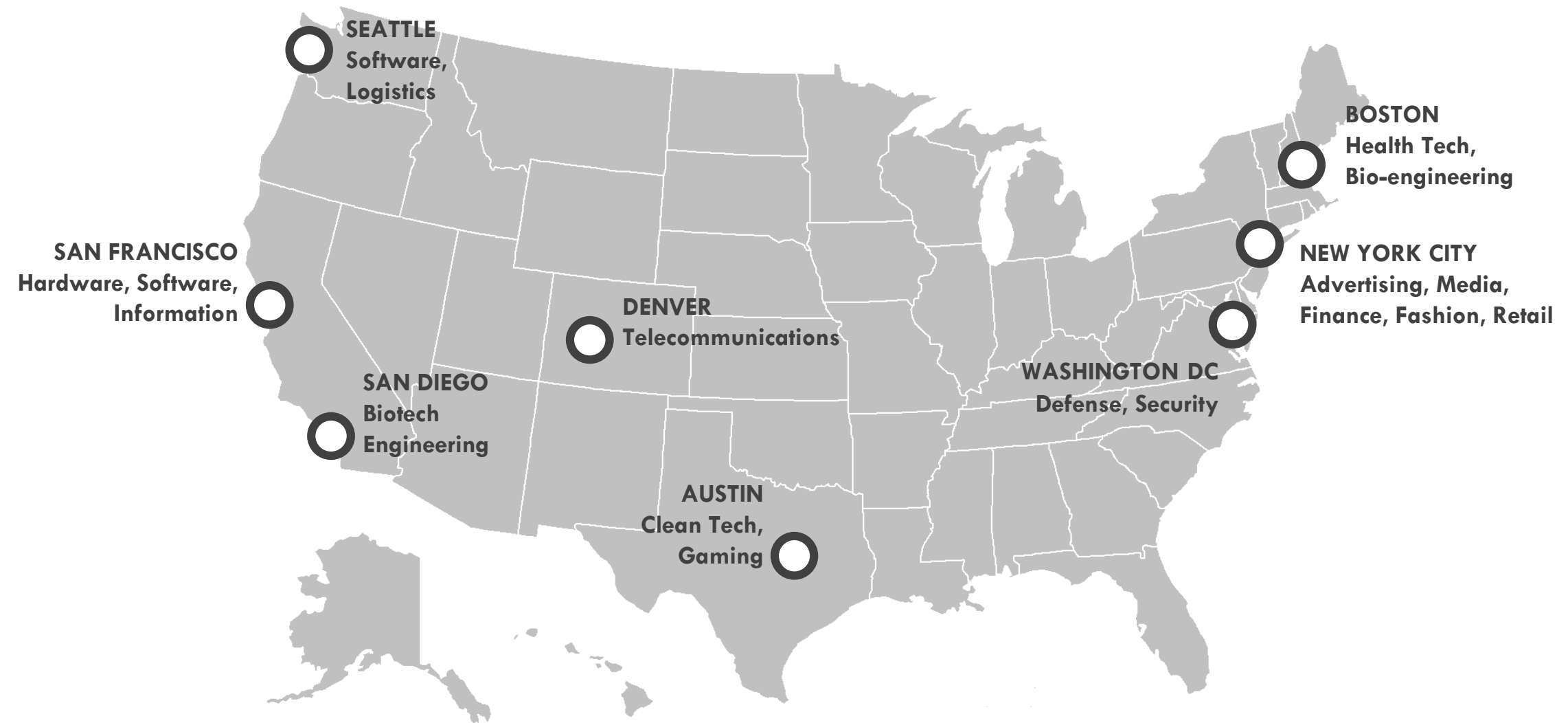


PLACES
Infrastructure
Urban Realm



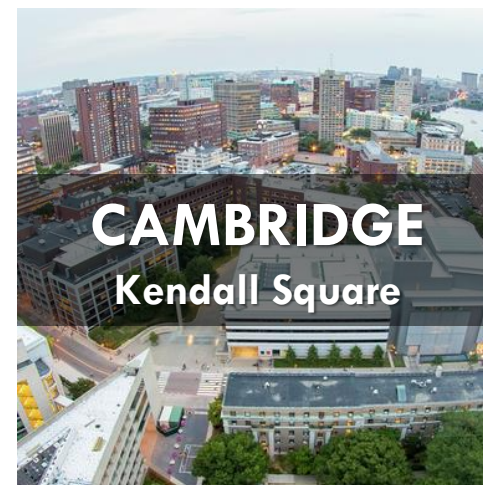
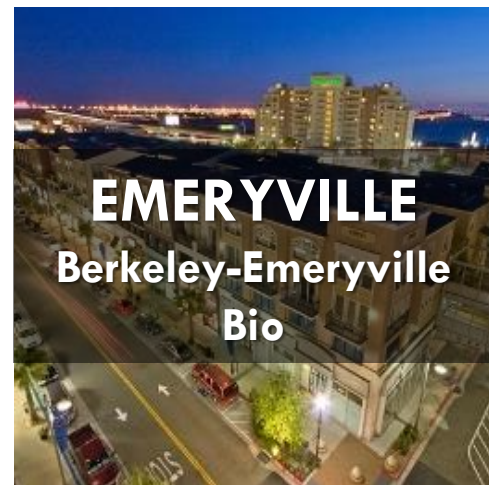
PROGRAMS
Partnerships
Tools

Innovation districts across the country reflect the focus of their regional economies.

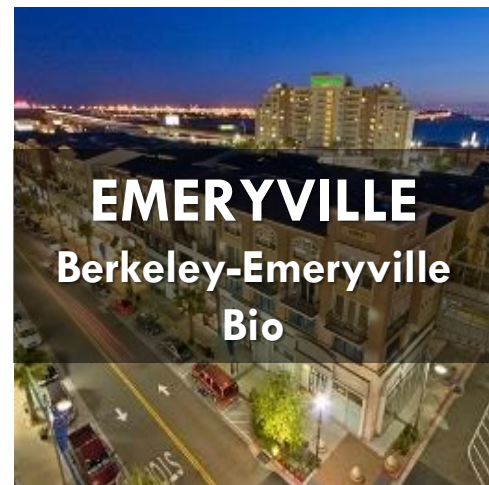


**What drives success at 21st century
innovation districts?**

HR&A analyzed six North American innovation districts to inform the redevelopment of the Plan into a 21st century innovation hub.



HR&A identified four of these six case studies as models of success in terms of land use composition, infrastructure investments, and governance structure.



St. Louis' Cortex Innovation Community consists of mixed-use office, residential, hotel, and retail space supported by five public, private, and institutional anchors.



OVERVIEW

Mixed-use innovation hub for bioscience and technology R&D and commercialization.

CURRENT COMPONENTS

- **1 million SF** of new and rehab space
- **\$350 million** in total investment
- **Nearly 10,000** people living in area surrounding district
- **200** companies
- **3,600** employees

ANCHOR PARTNERS

- Washington University in St. Louis
- University of Missouri – St. Louis
- City of St. Louis & State of Missouri
- Wexford Science & Technology
- BJC Healthcare
- St. Louis University



BioGenerator Labs



@4240 office and lab space

St. Louis: Relevant lessons for re-envisioning the Nassau Hub Biotech Park Plan.



MULTIFAMILY HOUSING

- **Over 4,000** multifamily residential units, representing nearly **90%** of housing in area.
- **Nearly 500** residential units built since 2000.
- Multifamily developments include **mixed-use structures and loft conversions**.
- **City issuing RFPs** for new multifamily developments.

TRANSPORTATION

- **MetroLink:** Cortex is currently served by two LRT stations – one of which boasts the highest ridership in St. Louis.
- **Bus:** Cortex is served by at least eight local bus routes, seven of which terminate at the district's LRT stations.

PUBLIC ACTION

- City of St. Louis **designated Cortex as the district's master developer**.
- Cortex is eligible to **receive up to \$167 million in public subsidies through TIF for gap financing and other initiatives**.
- The City of St. Louis supported Cortex's growth by applying for and receiving a **\$10 million TIGER grant for a new MetroLink station in the innovation district**.

Located between Berkeley and San Francisco, the City of Emeryville led the private redevelopment of a heavy industrial area into a mixed-use district.



OVERVIEW

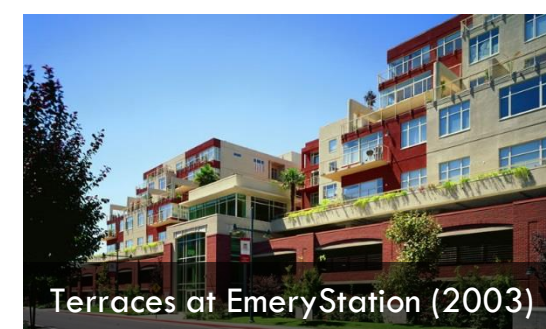
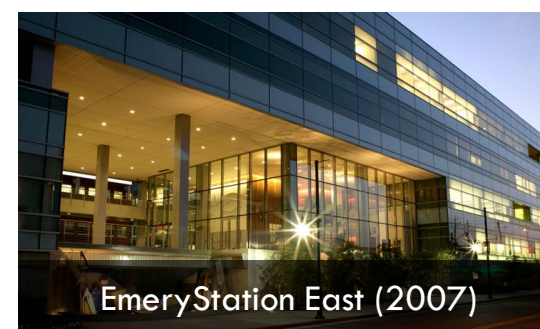
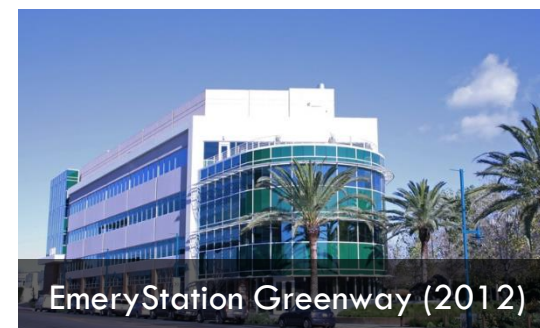
800-acre city founded as industrial district at western terminus of the transcontinental railroad. Transformed into mixed-use community with headquarters of innovative private sector companies, destination retail, and multifamily developments.

CURRENT COMPONENTS

- **4 million** SF of new and rehab office space
- **100 firms occupy 1.4 million** SF of biolab space
- **Over 1,100** companies citywide
- **Over 20,000** employees citywide

ANCHORS

- UC Berkeley
- Lawrence Berkeley National Lab
- UC San Francisco
- Novartis Institute of BioMedical Research
- Bayer Pharmaceuticals



Emeryville: Relevant lessons for re-envisioning the Nassau Hub Biotech Park Plan.



MULTIFAMILY HOUSING

- **Over 5,000** multifamily units have been developed in Emeryville, representing nearly **80%** of total housing units.
- **Nearly 2,000** units developed since 2000.

TRANSPORTATION

- **Private property owners funded a shuttle service** to connect the city to the regional subway system.
- The City was able to **fund an Amtrak Station and transit center through developer agreements.**

PUBLIC ACTION

- **The City's willingness to zone for multifamily housing** in a region with significant land use constraints allowed it to capture a significant share of regional growth and development.
- Initial public actions focused on **public realm improvements and mitigating redevelopment risk.**
- The City of Emeryville used planning tools to encourage the **phased build out of large development sites.**
- City revised its comprehensive plan to **encourage mixed-use and walkable infill development.**

The Kitchener-Waterloo region has seen nearly 2,000 new tech startups form since 2010, raising more than C\$650 million of investment.



OVERVIEW

Mid-sized city situated between Toronto and Detroit with nearly 500,000 people known for thriving technology and venture capital sector. Formerly industrial downtown attracted 12,000 new jobs between 2002 and 2013.

ANCHOR PARTNERS

- **Communitech:** 50,000 SF innovation center offering comprehensive range of services to entrepreneurs
- **Large tech firms:** Google, Intel, Electronic Arts, SAP
- **University of Waterloo:** Offers Velocity incubation program with Communitech and co-op placements in local tech firms.



Communitech and Google Offices

Kitchener-Waterloo: Relevant lessons for re-envisioning the Nassau Hub Biotech Park Plan.



MULTIFAMILY HOUSING

- Multifamily residential development has grown from **10% of all new housing units built in 2002 to 42% in 2014.**
- **Over 10,000** multifamily units exist in Kitchener-Waterloo, representing 15% of the region's housing stock.
- New condos and apartments are targeting young professionals and downsizing baby boomers.

TRANSPORTATION

- **Ion LRT:** C\$800M light-rail line between downtown and the University of Waterloo approved in 2009 and funded in 2011 in response to the lack of regional transit options. Began construction in 2014, and is projected to open in late 2017.

PUBLIC ACTION

- City's initial investment of C\$110 million focused on **creating conditions to support private investment**, including environmental remediation, transportation improvements, and encouraging anchor institutions to locate facilities to the downtown district.
- **The public sector financed and developed a new LRT transit line** to connect the innovation district with the university and surrounding residential neighborhoods.
- **The City overhauled its zoning code** to transform its post-industrial downtown into a mixed-use innovation district.

Texas Medical Center is the largest medical district in the world, home to teaching hospitals, research institutes, and a growing innovation hub.



OVERVIEW

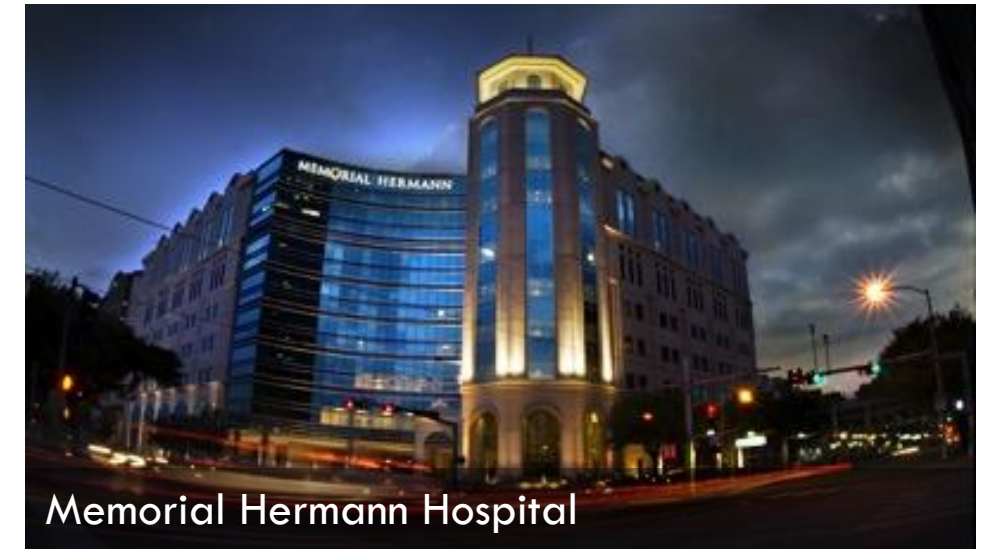
Texas Medical Center (TMC) is the largest medical center in the world. TMC grew after the City of Houston donated 134 acres around its existing Hermann Hospital to attract the University of Texas's MD Anderson Cancer Center and Baylor University College of Medicine.

CURRENT COMPONENTS

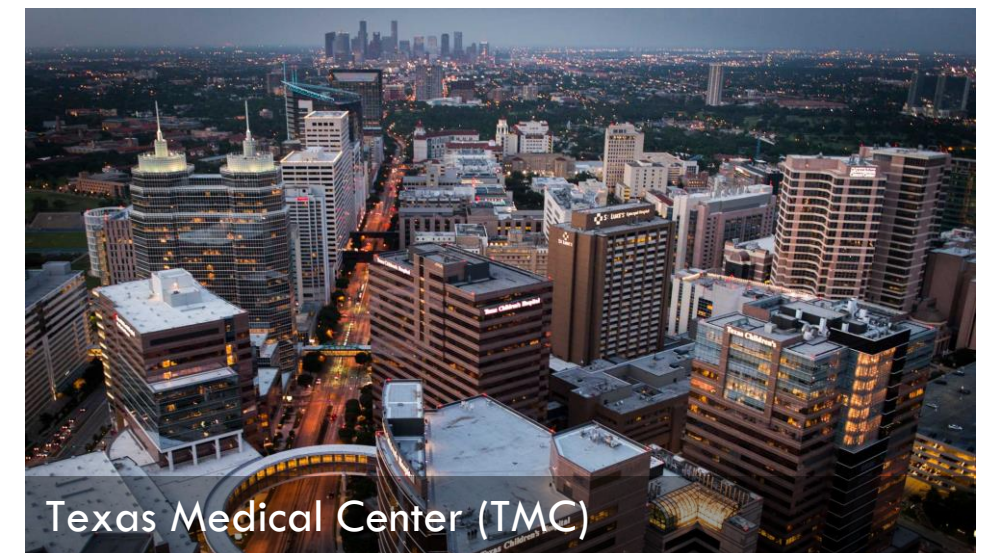
- **21 million SF** of hospital and research space
- **10** academic partners
- **21** hospitals
- **106,000** employees
- **50,000** life sciences students

ANCHOR PARTNERS

- University of Texas
- Baylor College of Medicine
- Rice University
- Texas Children's Hospital
- Texas Heart Institute
- Texas A&M College of Medicine



Memorial Hermann Hospital



Texas Medical Center (TMC)

Texas Medical Center: Relevant lessons for re-envisioning the Nassau Hub Biotech Park Plan.



MULTIFAMILY HOUSING

- **Over 2,000** multifamily units developed in area surrounding TMC, representing over **81%** of total housing units.
- **Nearly 1,500** housing units developed since 2000.

TRANSPORTATION

- **METRORail Light Rail:** Four stations run along the western portion of the campus and connect to downtown Houston.
- **Texas Medical Center Transit Center:** Multimodal facility connects the METRORail Red line with 17 local bus routes that provide transit access to the greater Houston area.

PUBLIC ACTION

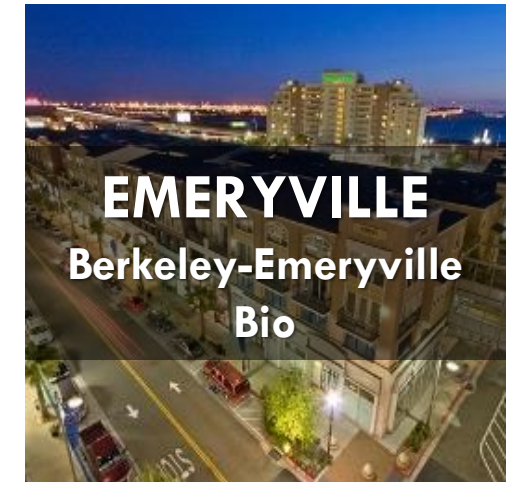
- Groundwork for the Texas Medical Center was established in the early 1940s with the **creation of the MD Anderson Hospital and the City of Houston's 134 acre donation to establish a hospital district.**

Case studies inform the fundamental drivers of innovation district success.





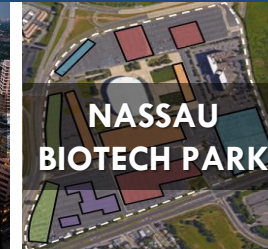





























Primary attributes include:

- **Large research, medical, and/or academic anchor institutions** that produce forward-looking ideas, advance commercialization, and provide the backbone of the district's competitive advantage.
- **Mixed-use development that provides multifamily housing** options with office space and retail amenities that respond to the needs of skilled young workers.
- **Robust, highly-connected transit service** that accommodates a growing population of workers and residents who prefer alternative modes of transportation.
- **Strong public-sector investment, governance, and collaboration** with institutions and private-sector stakeholders to shape the broader region's economic goals.

Selected Case Studies



The current Plan lacks convenient transit options, the mix of land uses, and other amenities that are necessary components of successful 21st century innovation districts.

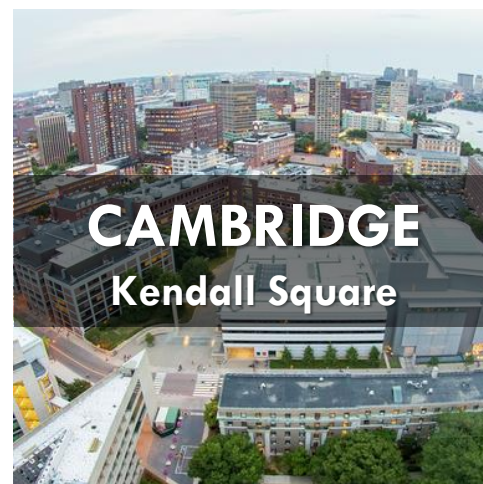
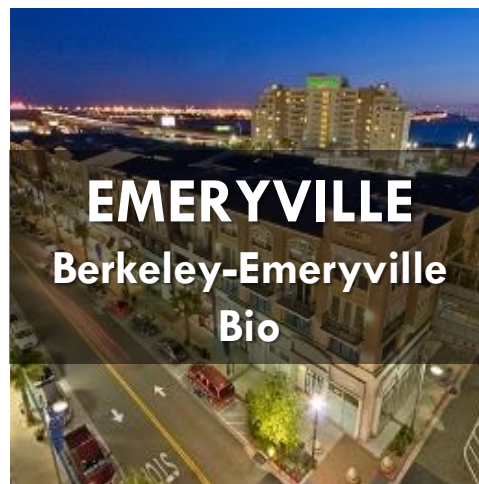
Selected Case Studies				
				
ST. LOUIS	EMERYVILLE	KITCHENER-WATERLOO	HOUSTON	NASSAU BIOTECH PARK
				
				
				
				
				
				
				

Lessons for the Biotech Park Plan:

- **Developing new multifamily housing at the Coliseum site can address the region’s supply gap** and attract and retain young highly educated workers.
- **Public transit improvements would help create a pedestrian-friendly district**, mitigating congestion and increasing accessibility.

**The Plan must be re-envisioned to transform an obsolete
paradigm to a modern, competitive district**

Four districts were also used to provide a model to guide the physical character, land use mix, and critical mass needed to create a successful 21st century innovation district.



- While all four districts are urban examples, **researching suburban districts alone limits the opportunity to aspire to a more robust model.**
- The innermost rings of **traditional suburbs are evolving to develop a more urban, transit-oriented character.**
- For example, San Jose's suburban character contrasts with San Francisco's denser landscape. As such, **the city is attempting to retrofit its inner neighborhoods to offer potential new residents a more walkable, dense lifestyle.**

The Nassau Biotech Park Plan lacks the critical mass of both office/R&D space and multifamily housing that successful innovation districts contain ...

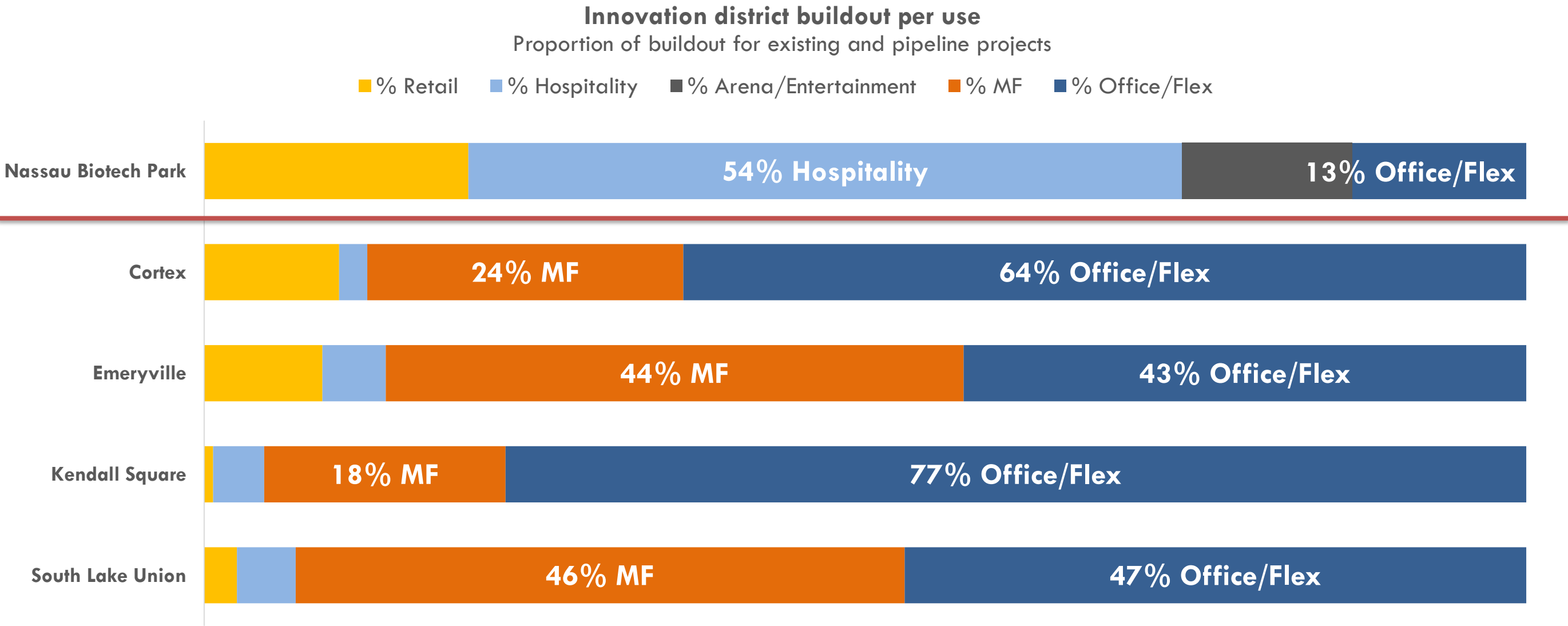
	Comparable Innovation Districts				
					
Total Land Area (Acres)	230	281	741	205	77
Existing or Proposed Development (SF)					
Retail	800K	130K	1.5M	720K	650K
Hospitality	1.4M	740K	820K	150K	1.7M
Arena/Entertainment	0	0	0	0	420K
Multifamily	14.8M	3.5M	7.5M	1.7M	0
Office/R&D/Flex	15.1M	14.9M	7.3M	4.5M	425K
Total	32.3M	19.3M	17.0M	7.0M	3.3M
*Floor Area Ratio (FAR)	3.2	1.6	0.5	0.8	1.0

* Floor Area Ratio (FAR): Ratio of a building's total floor area to the size of the piece of land upon which it is built.

... and resembles the mix of uses and density of Long Island’s 20th century office parks.

	Long Island Office Parks		
			
Total Land Area (Acres)	275	1,184	77
Existing or Proposed Development (SF)			
Retail	113K	0	650K
Multifamily	0	0	0
Office/R&D/Flex	5.7M	7.8M	425K
Total	5.8M	7.8M	1.1M
Floor Area Ratio	0.5	0.2	0.3

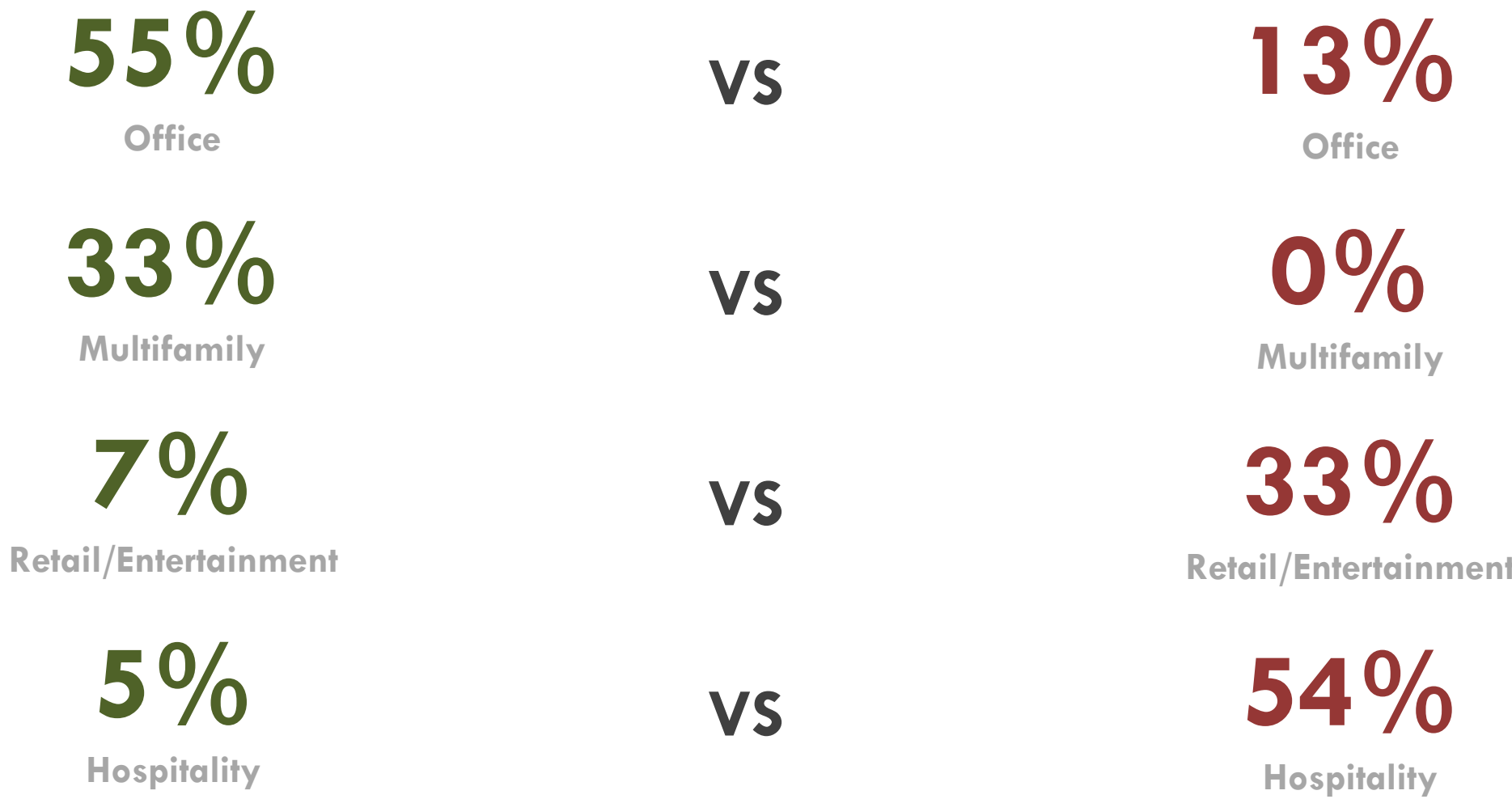
Multifamily housing accounts for a significant proportion of current and future buildout in successful 21st century innovation districts.



The Biotech Park Plan is more heavily weighted towards retail, entertainment, and hospitality as compared to other 21st century innovation districts.

OTHER INNOVATION DISTRICTS

NASSAU BIOTECH PARK PLAN



The Plan also lacks the critical mass that characterizes successful innovation districts.

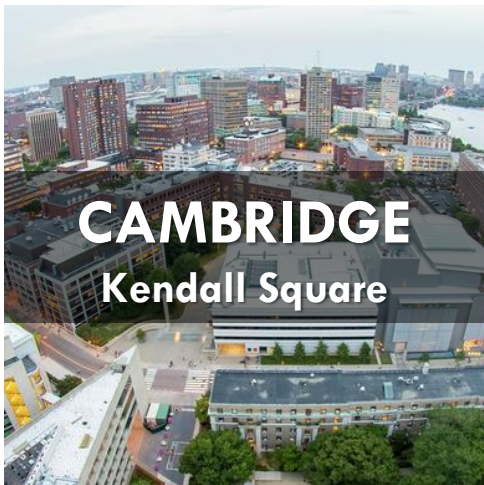
Innovation Districts – Total Built Area



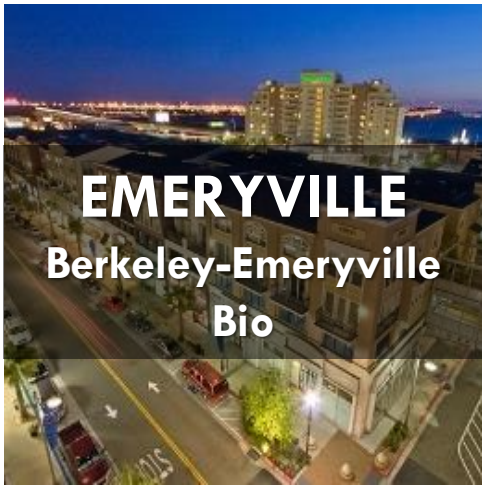
7.0M SF



32.3M SF



19.3M SF

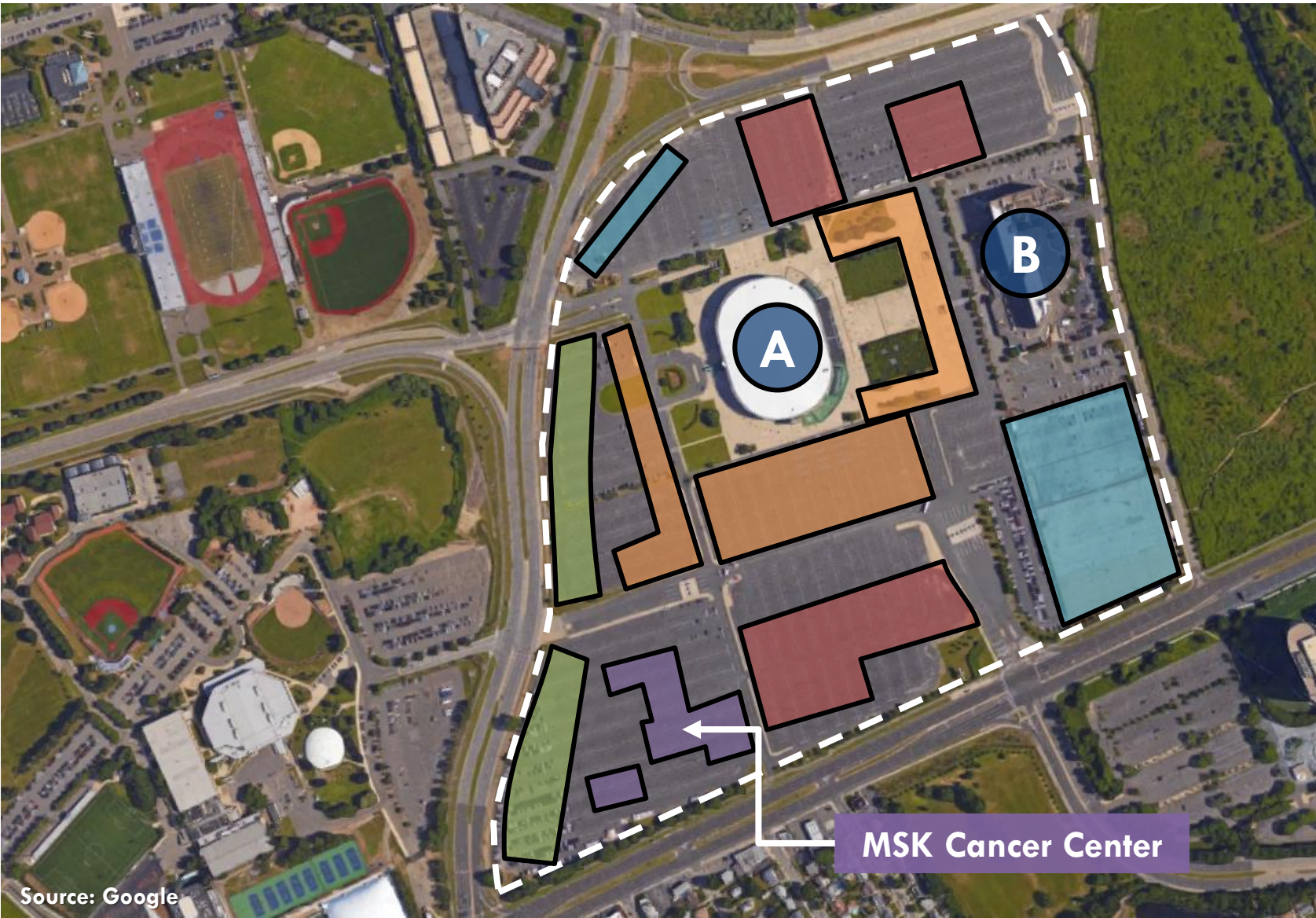


17.0M SF



3.3M SF

The proposed Plan’s 3.3 M SF of development would be insufficient to foster the growth of the biotech sector and generate the needed workers, residents, and visitors to support a thriving innovation district.



Nassau Biotech Park Plan	
Category	Full Build Out
Retail / Recreation	645 K
Hospitality	1.7 M
Arena	416 K
Multifamily	0
Office / R&D / Flex	425 K
TOTAL	3.3 M

The transformation of the Biotech Park Plan from an outdated research park to a competitive, 21st century innovation district, the ***Nassau Hub Innovation District***, can be realized and will generate greater economic benefits for the County and the region.



Reallocating proposed uses to develop a more dense, critical mass of development distributed among the ideal mix of uses would transform the current Plan into the walkable, 24/7 Nassau Hub Innovation District.

Nassau Hub Innovation District Program		
Category	Current Plan (SF)	Innovation District Program (SF)
Retail / Recreation	0.7 M	0.4 M
Hospitality	1.7 M	0.7 M*
Arena	0.4 M	0.4 M
Multifamily	–	2.2 M
Office / R&D / Flex	0.4 M	3.4 M
Total	3.3 M	7.1 M

* The existing 400 K SF Marriott Hotel would remain in the Alternative Program; however, the 1.3 M SF proposed hotel development would be scaled back to 300 K SF.

Adjustments to the Mitchel Field Mixed-Use District zoning be leveraged to accommodate the development of multifamily housing in the Biotech Park.

Modest zoning changes could increase capacity to add multifamily housing, necessary to create a dense, vibrant district and generate ridership for new transit service.

- Limit retail to ground floor.
- Allow three floors of residential above retail.
- Remove restriction of 6 units per mixed-use building.
- Remove 500 dwelling unit cap.
- Increase max. lot coverage from 35% to 50%.
- Increase max. number of dwelling units per building from current cap of 6 to max. potential of 12.

Residential Typologies



The proposed development program for the Nassau Hub Innovation District can be accommodated in low- to mid-rise buildings similar in size to other properties elsewhere in the region and in other innovation districts.

Public Realm



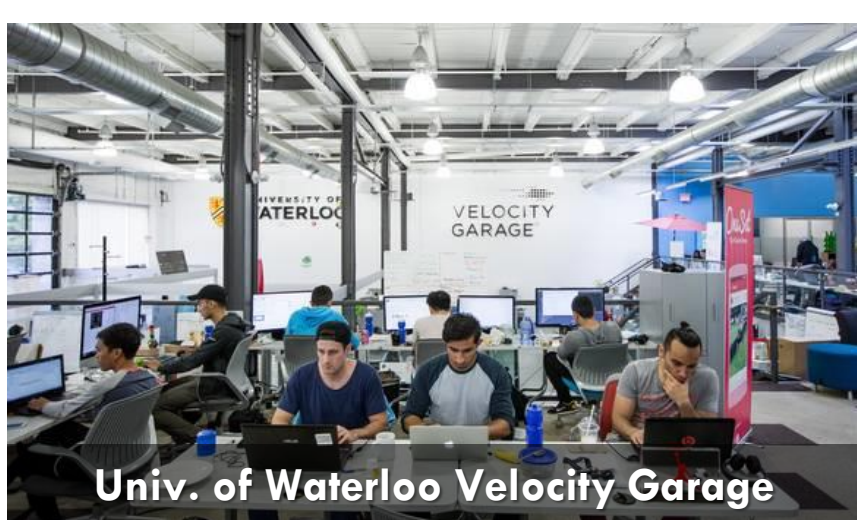
South Lake Union, Seattle, WA

Hospitality / Retail



The MC Hotel, Montclair, NJ

Office / R&D / Flex



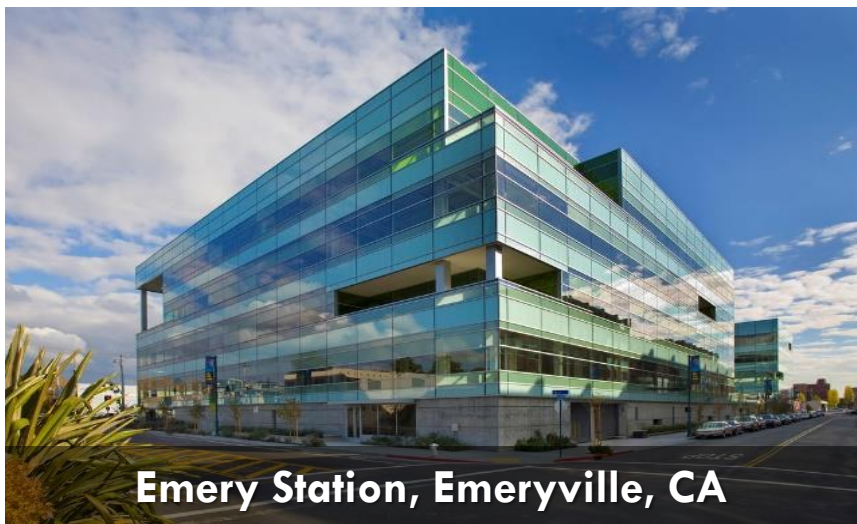
Univ. of Waterloo Velocity Garage



Kendall Square, Cambridge, MA



**City Foundry Food Hall (Proposed),
Cortex East, St. Louis, MO**

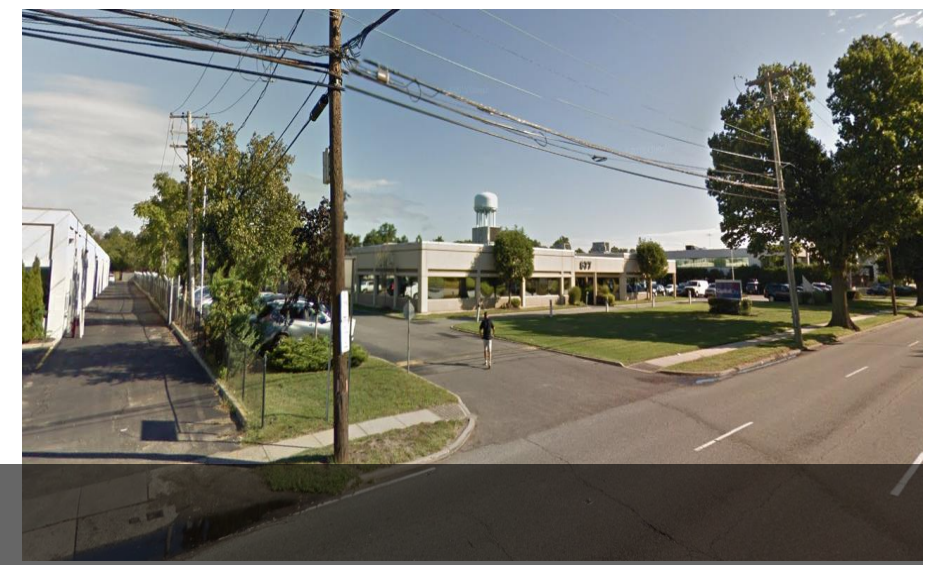


Emery Station, Emeryville, CA

Collectively, these actions would transform an area with outdated land uses, poor transportation connectivity, and underutilized and disconnected parcels into a 21st century innovation district.



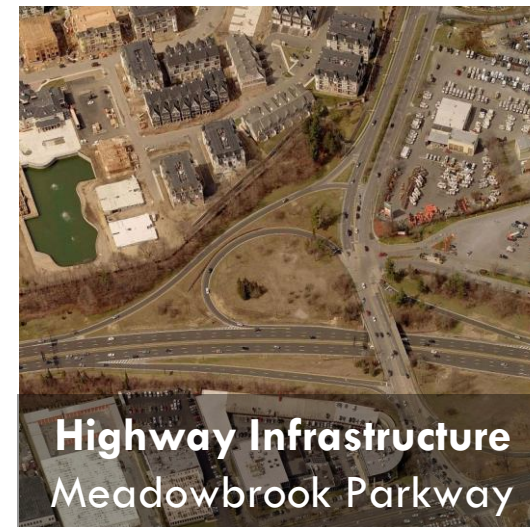
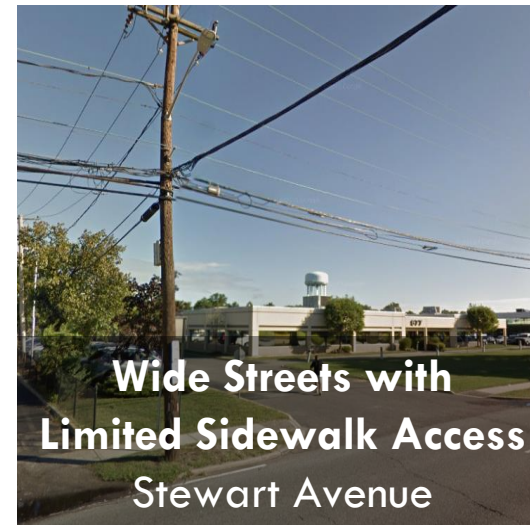
Nassau Hub Biotech Park Plan



Nassau Hub Innovation District Plan

**Robust transit service is critical
to the success of the Nassau Hub Innovation District**

The lack of robust transit, wide roadways, and auto-oriented planning results in poor connectivity in the Nassau Hub area.

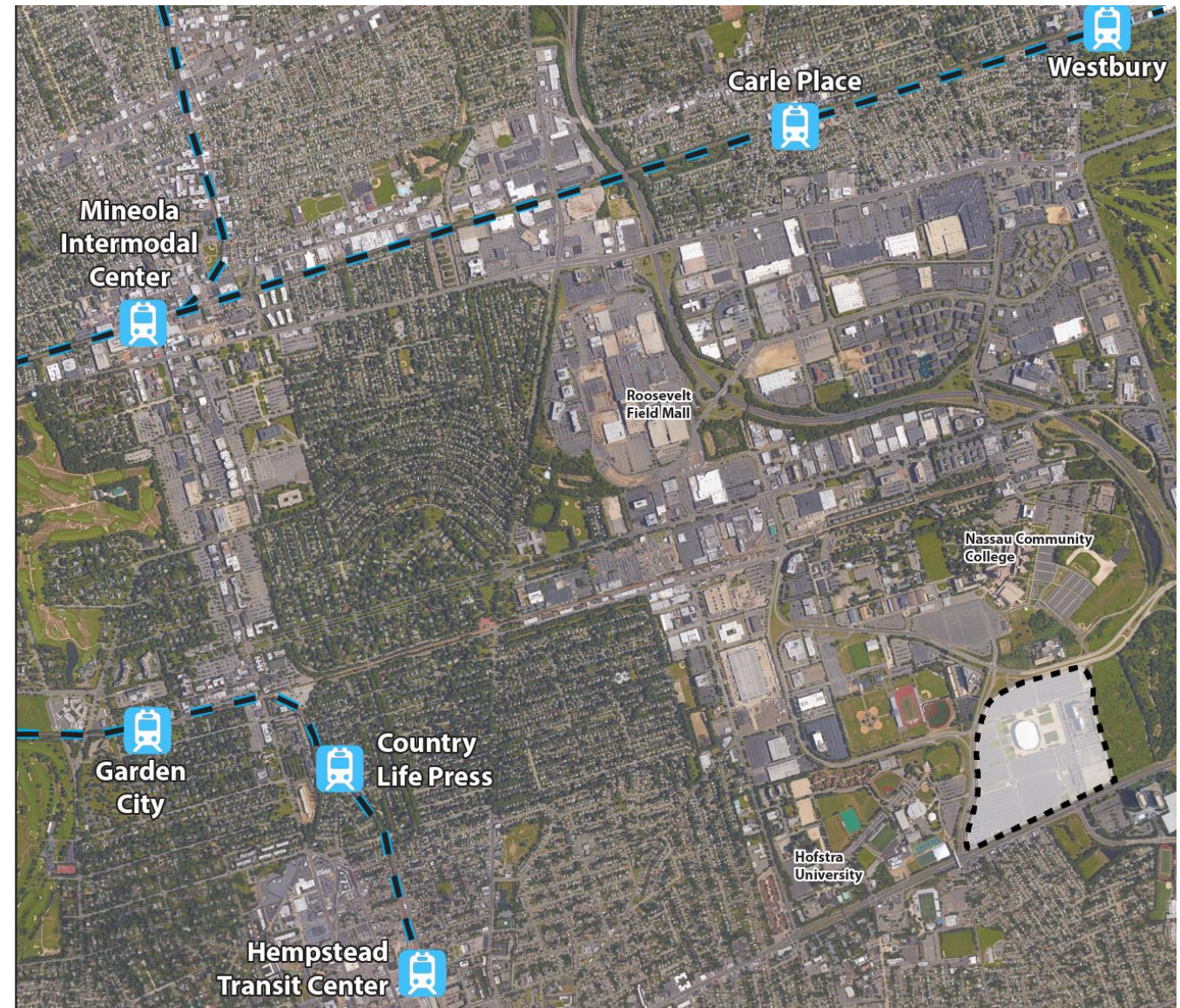


Existing transit service in the Nassau Hub area is inconvenient, fragmented, and inadequate.

LIRR service is limited and not very convenient:

- Of the six stations in the Nassau Hub area, Mineola, although the most distant, provides frequent service (<10 minutes) for peak-directional travel.
- Other local stations offer hourly service.
- LIRR has limited utility for east-west intra-County travel, and none for north-south.

The NICE bus network has many routes serving the area, but most operate infrequently, particularly during off-peak times.

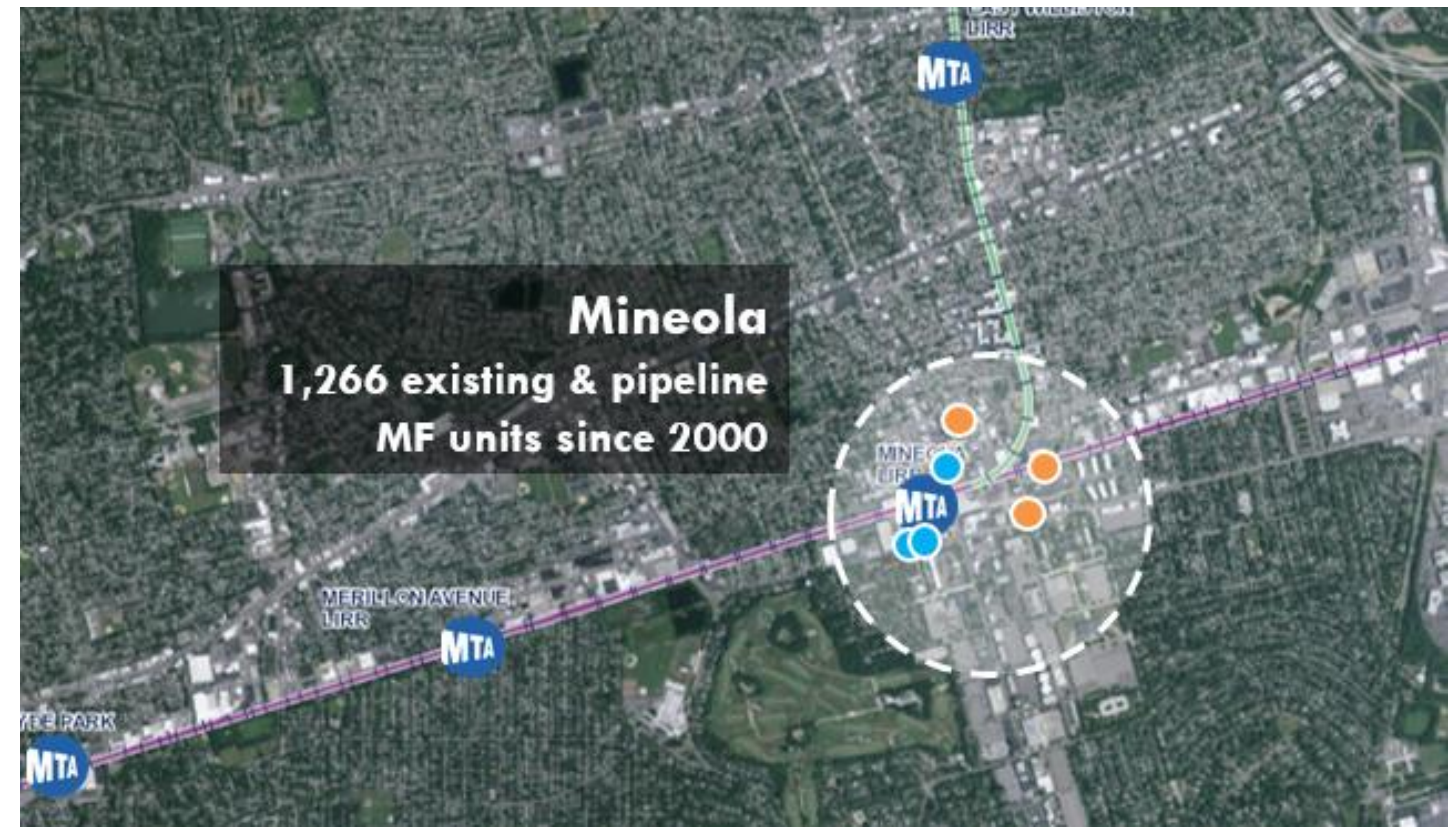


The Mineola Intermodal Center provides the best service in the Nassau Hub area compared to other nearby stations that provide limited service, particularly during off-peak times.

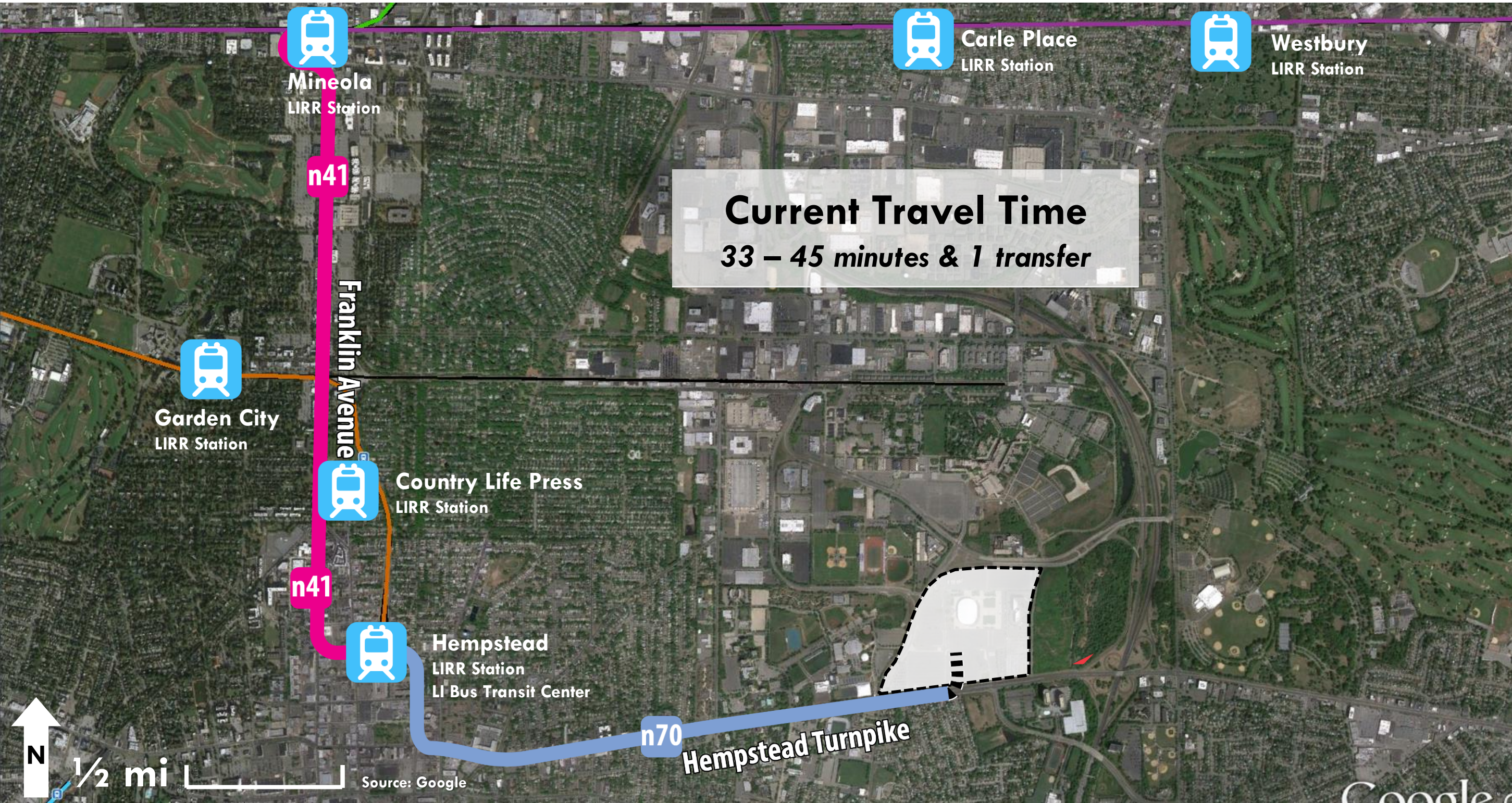
Station	Peak Period, Peak Direction Frequency	Peak Period, Off-Peak Direction Frequency
Mineola Intermodal Center	6 trains/hour	3 trains/hour
Hempstead Transit Center	3 trains/hour	1 train/hour
Country Life Press	3 trains/hour	1 train/hour
Garden City	3 trains/hour	1 train/hour
Carle Place	2 trains/hour	1 train/hour
Westbury	3 trains/hour	1 train/hour

Attractive and efficient connections to Mineola would be a significant contributor to the success of the Nassau Hub Innovation District.

- Attractive LIRR travel times and frequencies from Manhattan provide an efficient trip for employees commuting to and from the Innovation District.
- Data from the Long Island Index signaling recent and continued development of multifamily housing and transit-oriented development could provide attractive housing for, and a source of, future employees.



Current travel times between the Coliseum site and Mineola via transit requires a long, two-bus trip.



A combination of short- and long-term improvements are required to improve transit mobility and ridership for the Nassau Hub Innovation District and the surrounding area.

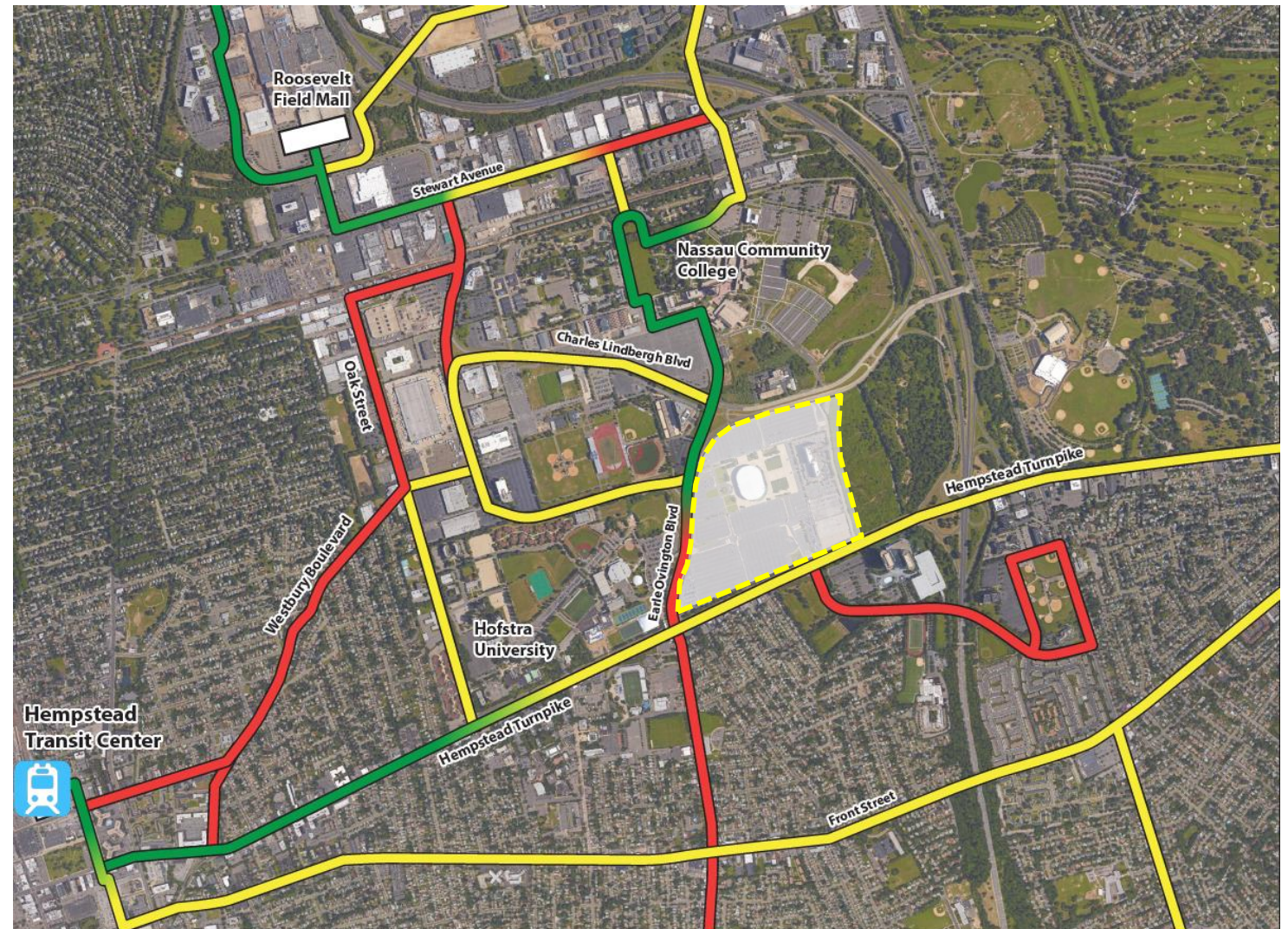
- **Improvements to NICE bus service** can increase attractiveness of service for local connections at low- to no-cost.
- **Use of the existing LIRR rights-of-way** can provide a faster and innovative transit service versus existing and LINC options, and offer new bicycle and pedestrian connectivity.
- **Combined with LINC*, improvements to existing service and implementation of new services** can provide robust transit mobility necessary to attract employees and residents to the Innovation District.



**LINC is a new 8.5-mile BRT service proposed by Nassau County to connect Hempstead, Mineola, Roosevelt Field, and Nassau Community College.*

NICE bus routes provide geographically broad access to major transit hubs, but most individual routes operate with uneven or long headways.

- Earle Ovington Boulevard is a strong transit corridor with 10 buses per hour in peak periods, and frequent service to the Hempstead Transit Center.*
- Bus routes share many major destinations, making routes interchangeable for some customers.
- However, schedules are not coordinated, and combined headways may not be evenly spread.



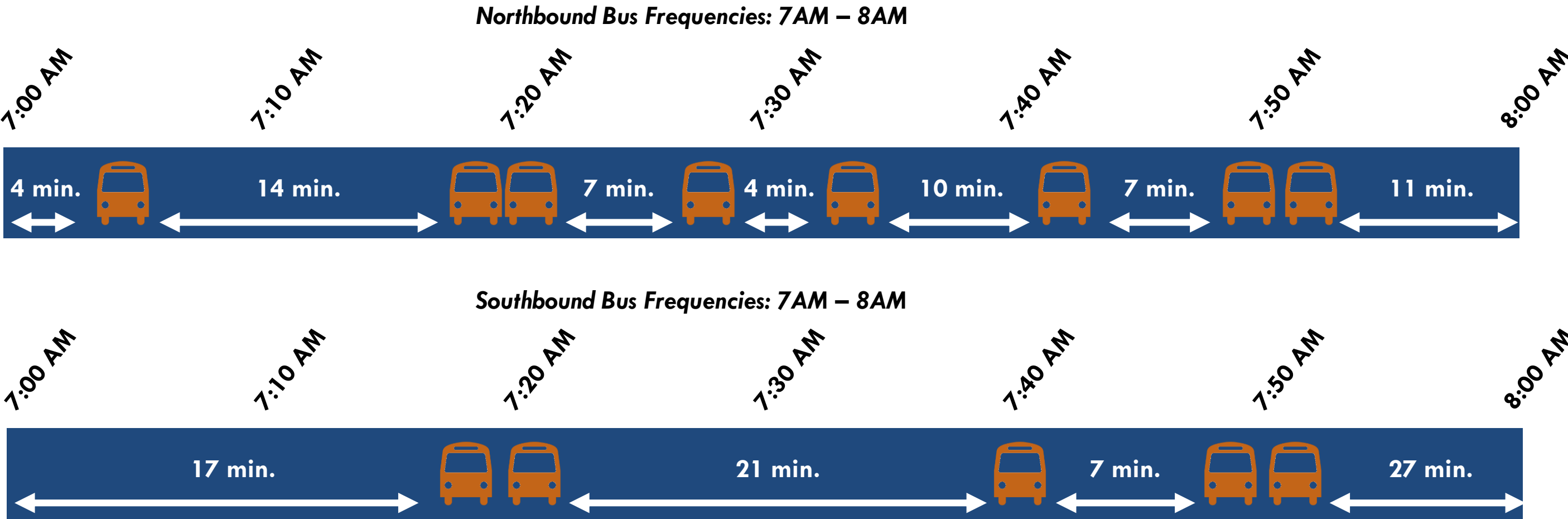
Existing Bus Frequencies by Corridor

— < 4 buses/hr — 5 - 9 buses/hr — 10+ buses/hr

* Officially renamed the Rosa Parks Hempstead Transit Center

Combined bus schedules for routes currently serving the corridor are uncoordinated, leading to unpredictable service.

Bus routes serve many of the same major destinations around the Hub; inconsistent frequencies decrease the convenience and attractiveness of local bus service.



Improving bus reliability through minor schedule changes is a low-cost strategy to improving transit mobility for Nassau Hub Innovation District employees, residents, and visitors.

1 Proposed service enhancements would not require changes in operating policy.

- Bus schedules are not explicitly tied to the LIRR schedule at the Hempstead Transit Center.

2 Low-impact changes to schedules and operations could provide significant improvements.

- Rerouting key bus lines could improve service and frequency to the Innovation District.
- Minor schedule modifications could provide normalized and attractive headways.

Minor modifications to existing bus routes would improve bus frequency for customers, at little cost.

- The N27 and N35 currently provide service to the periphery of the Coliseum site.

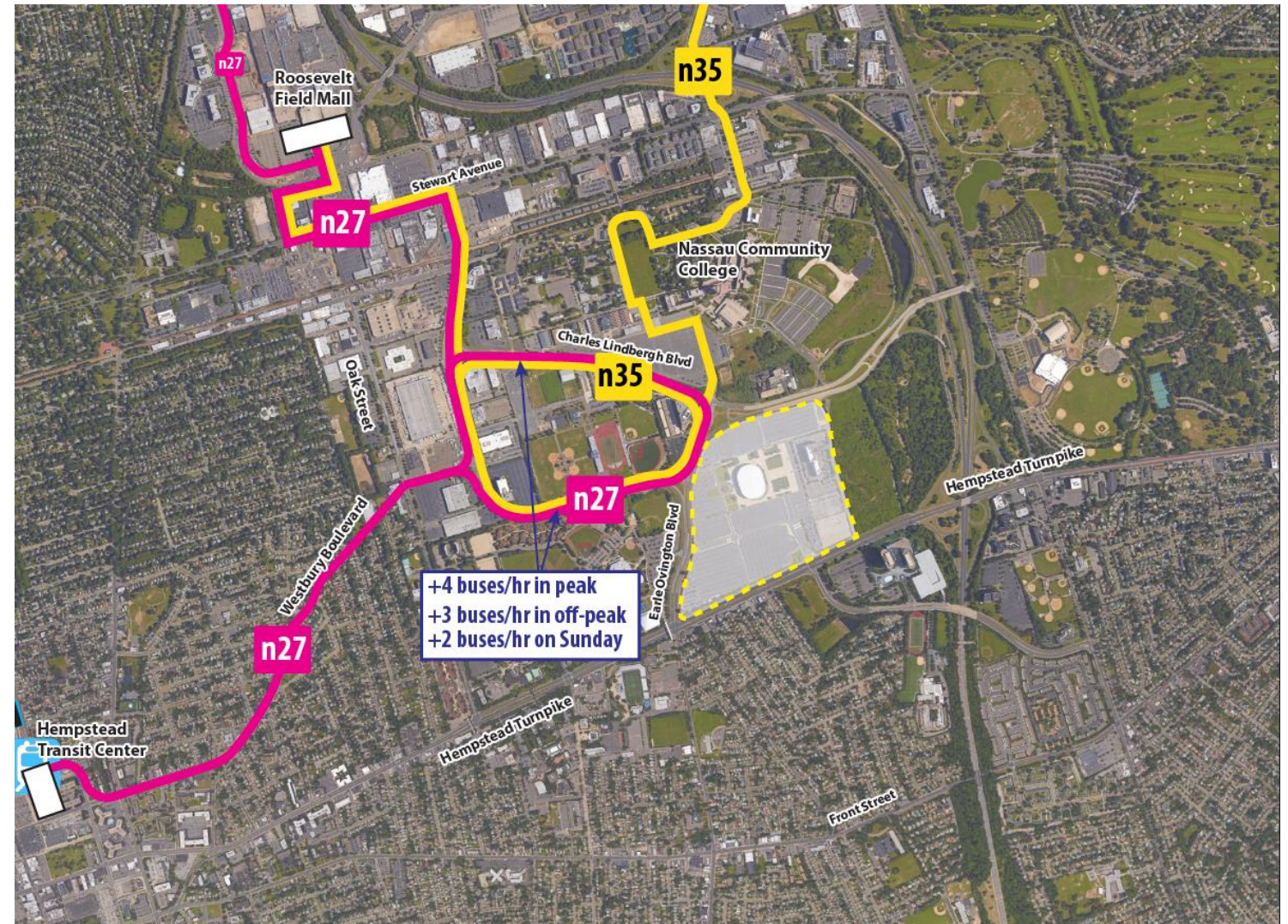


Existing NICE Bus Routings for N27 and N35

Bus Route Alignment

Minor modifications to existing bus routes would improve bus frequency for customers, at little cost.

- **Minor re-routing of the N27 and N35 lines** would relocate service from the periphery of the Innovation District site into the core, as well as add more connections to Roosevelt Field, Hempstead, and Westbury.
- Improvements would **add four buses during a peak hour** and **three buses in the off-peak hour** on some corridors.

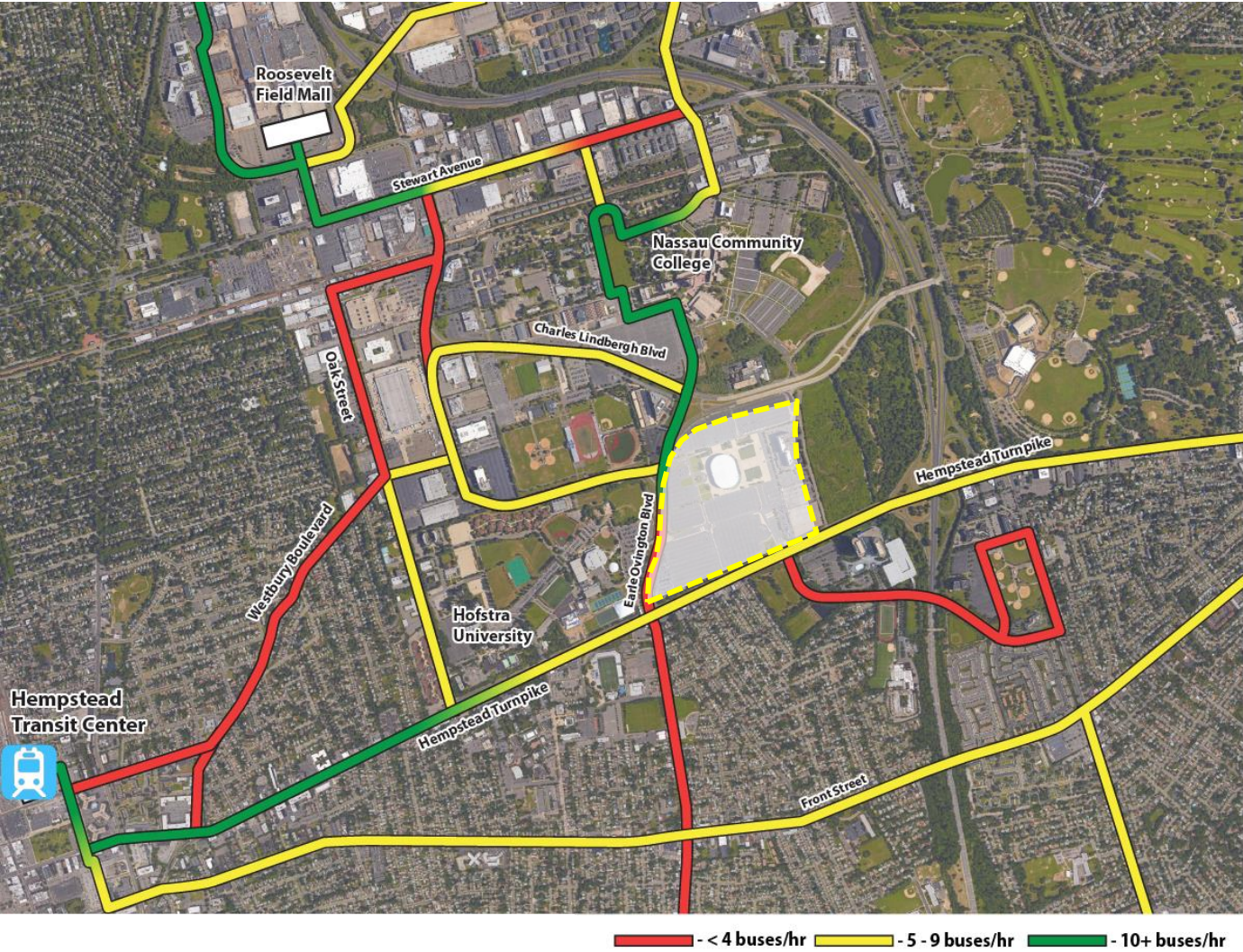


Proposed NICE Bus Routings for N27 and N35

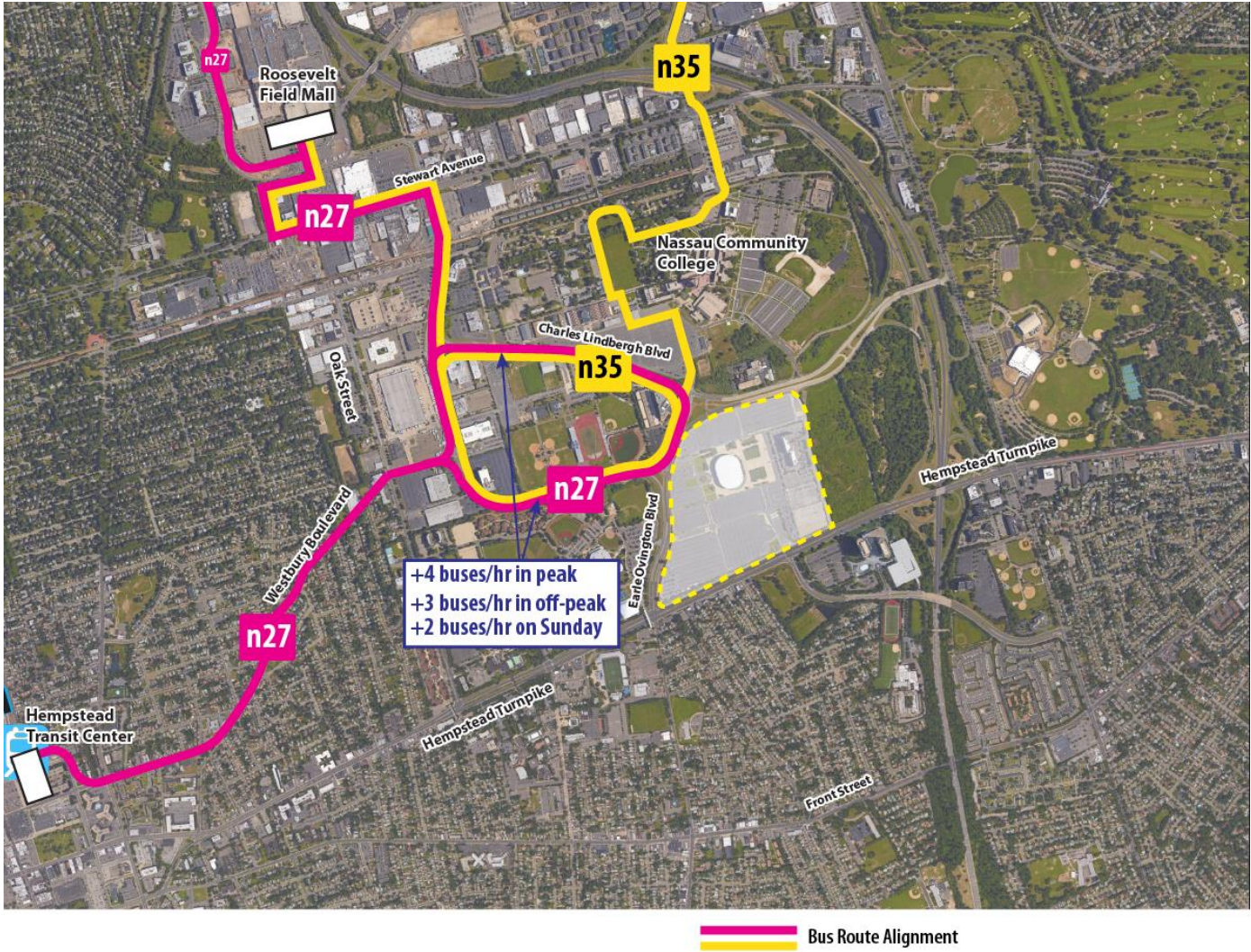
Bus Route Alignment

However, improved local bus service alone will not significantly increase transit demand or offer an attractive alternative to driving. More needs to be done to make transit attractive and convenient for the area.

Existing Bus Frequencies by Corridor

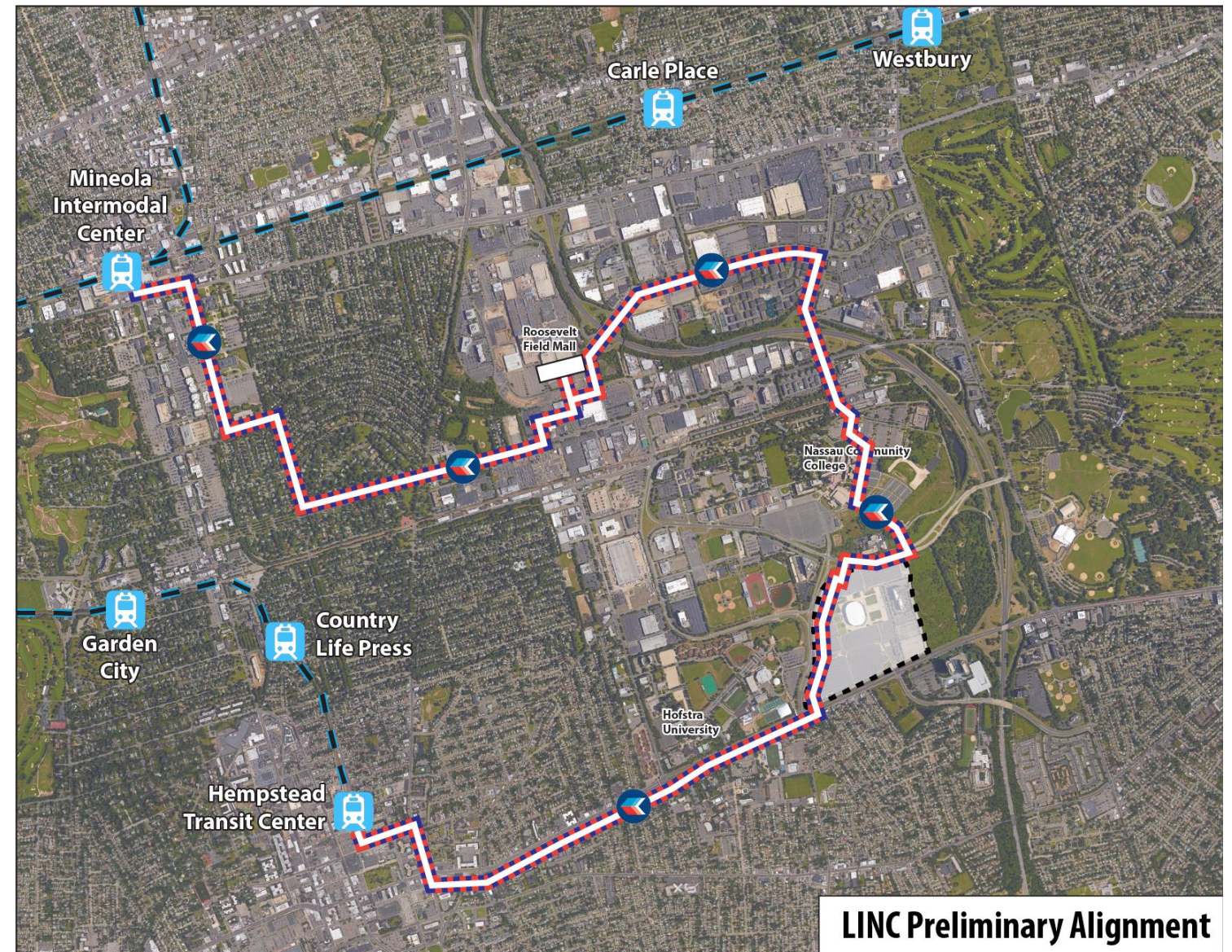


Proposed NICE Bus Routings for the N27 and N35



LINC, proposed by the County in 2015, will connect key land uses and LIRR stations in the Nassau Hub area, which requires the route to be a cup handle shape, not linear.

- LINC would connect the Innovation District site to Mineola, but do so via a circuitous routing that prioritizes retail access and in so doing would use congested roadways.
- The proposed route alignment would not provide the shortest, fastest connection between Mineola and the Innovation District site – which is necessary to attract employees to use transit.
- Currently there is no schedule for the start of construction.



LINC Preliminary Alignment

There is an opportunity to convert one underutilized and one abandoned LIRR Right-of-Way (ROW) to create a dedicated and rapid transit connection for the Hub area.

- There is potential to convert several miles of LIRR ROW into new transit service.
- The Garden City-Mitchel Field Secondary (the Secondary) was recently used only once a year for the circus train.
- The Mineola spur has been abandoned, but ROW is unobstructed.



The Secondary provided passenger service years ago and rail infrastructure remains in place between Nassau Community College and Garden City.

- Reactivated in 1947, the Secondary delivered all building materials for the construction of Levittown. Upon completion of the development, the developer opposed plans to initiate passenger service.
- The Secondary is an intact 55-foot wide right of way running 2.1 miles from Nassau Community College to the Mineola spur.
- A single track runs for the entire length, with a two track electrified segment on the western end. There are five at-grade crossings with no existing gates or signals.



The Mineola spur was abandoned over 50 years ago, but remains largely unobstructed.

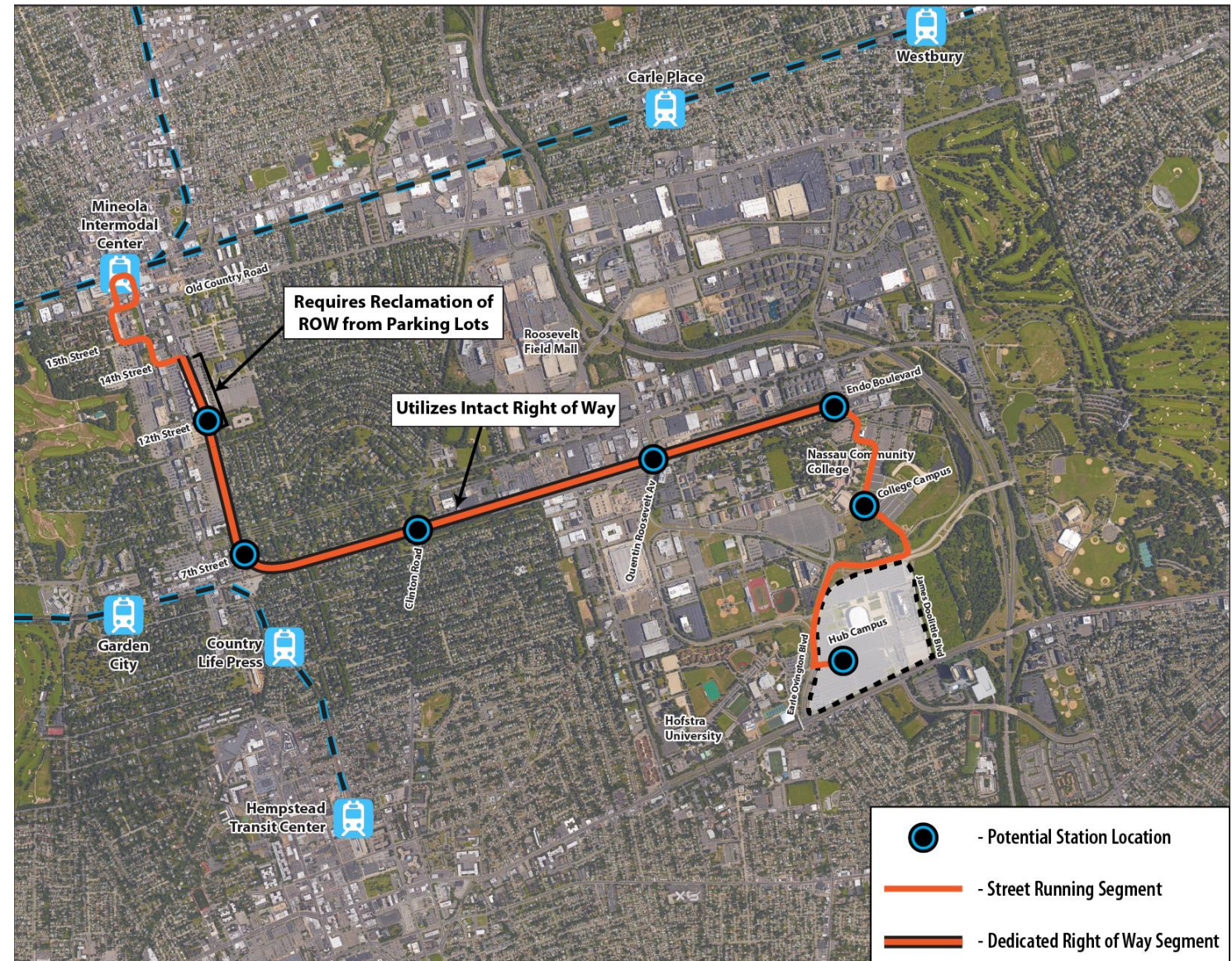
- The Mineola Spur runs from the western end of the Secondary to Old Country Road.
- The right-of-way is intact along the southern portion of the track; the remaining segment (north of 11th Street) is aligned through parking lots.
- A dedicated running-way north of 11th Street is possible by reclaiming the old ROW or creating a new one through parking lots west of Franklin Ave.



Existing rail ROW can be reactivated for reliable service from the Coliseum site to the Mineola Intermodal Center.

- A 5.3 mile preliminary alignment could make six additional stops between the Coliseum site and Mineola in each direction.
- Additional segments – street-running and dedicated – would be needed to reach the Coliseum site to the south and Mineola station to the north.
- The service would connect uses within the Nassau Hub area including some retail, residential, and municipal destinations.

** Requires creation of new access roadway through Nassau Community College campus*



The service could employ a variety of mode options – Light Rail, Streetcar, or Bus Rapid Transit (BRT).



- Can travel at faster speeds
- Can operate higher capacity vehicles
- Requires track and propulsion power infrastructure
- Requires a shuttle from the Coliseum site to the Garden City terminus
- Very high capital cost (~\$80M/mi.)



- May be able to provide single seat ride from the Coliseum site to Mineola
- Short span means battery powered may be feasible
- Requires power infrastructure, maintenance, and storage facilities
- High capital cost (~\$35M/mi.)



- More flexible routing and operation
- Vehicle capacity more appropriate for the Innovation District
- Single seat ride from the Coliseum site to Mineola
- Minimal support infrastructure required
- Significantly lower capital cost (~\$22M/mi.)

The BRT option would also be the most cost effective, with projected costs lower than the \$85 M investment in the Coliseum site’s parking garage.

LRT w/ Shuttle

Houston TX METRORail	
Cost (2013)	\$1.08 B
Miles	12.8 mi.
Cost per Mile	\$84.4 M
Adjusted for \$2017	\$86.2 M

Projection for Nassau Innovation District	
Nassau Busway Length	2.9 mi.
Projected Cost	\$250 M
30% Contingency	\$325 M

Streetcar

Portland Streetcar	
Cost (2014)	\$251 M
Miles	7.4 mi.
Cost per Mile	\$34.1 M
Adjusted for \$2017	\$34.4 M

Projection for Nassau Innovation District	
Nassau Busway Length	2.9 mi.
Projected Cost	\$100 M
30% Contingency	\$130 M

BRT

LA Metro Orange Line	
Cost (2015)	\$324 M
Miles	18 mi.
Cost per Mile	\$18.0 M
Adjusted for \$2017	\$21.9 M

Projection for Nassau Innovation District	
Nassau Busway Length	2.9 mi.
Projected Cost	\$64 M
30% Contingency	\$83 M

With moderate capital costs and maximum flexibility, the BRT option is most appropriate at this time to serve the Nassau Hub Innovation District.



Necessary Ridership	Very High	High	Moderate
Capital Cost	Very High	High	Moderate
Total Travel Time	Long	Moderate	Moderate
Requires Shuttle Transfer	Yes	Maybe	No
Flexible & Maneuverable	No	No	Yes
Specialized Facilities	Yes	Yes	No

Less costly roadway modifications can accommodate BRT via a dedicated busway and provide new bicycle and pedestrian facilities – further enhancing mobility options.



The Los Angeles Metro Orange Line converted rail freight right-of-way to a dedicated busway, a good model for the Biotech Park.

- An 18-mile former railroad right-of-way converted to dedicated, exclusive busway service that carries 28,000 passengers in an average weekday.
- A parallel bike path along the alignment provides another mode alternative.
- Cost of construction was \$324 million, or \$18 million/mile.



The BRT busway option – *the Hubway* – would reduce travel time from the Innovation District to the Mineola Intermodal Center by five minutes (24%) versus LINC, using the same set of assumptions.

Mineola Intermodal Center to Innovation District

Travel Times

The Hubway	Distance (mi.)	Avg. Speed (mph)	Travel Time (min)
Innovation District to Start of Dedicated Busway	1.8	18.0	6.0
Travel along Dedicated Busway	2.9	22.0	7.9
End of Dedicated Busway to Mineola	0.6	15.0	2.4

Hubway Travel Time: ~16 minutes

Proposed LINC Travel Time: 21 minutes

Current Travel Time: 33 – 45 minutes & 1 transfer

New ridership generated by the more aggressive development proposed for the Nassau Hub Innovation District, when added to existing area ridership, could sustain service of the Hubway.

TARGET HEADWAYS

~ 130 one-way trips per day
30 passengers per trip

10 mins.

Peak

15 mins.

Off-Peak

20 mins.

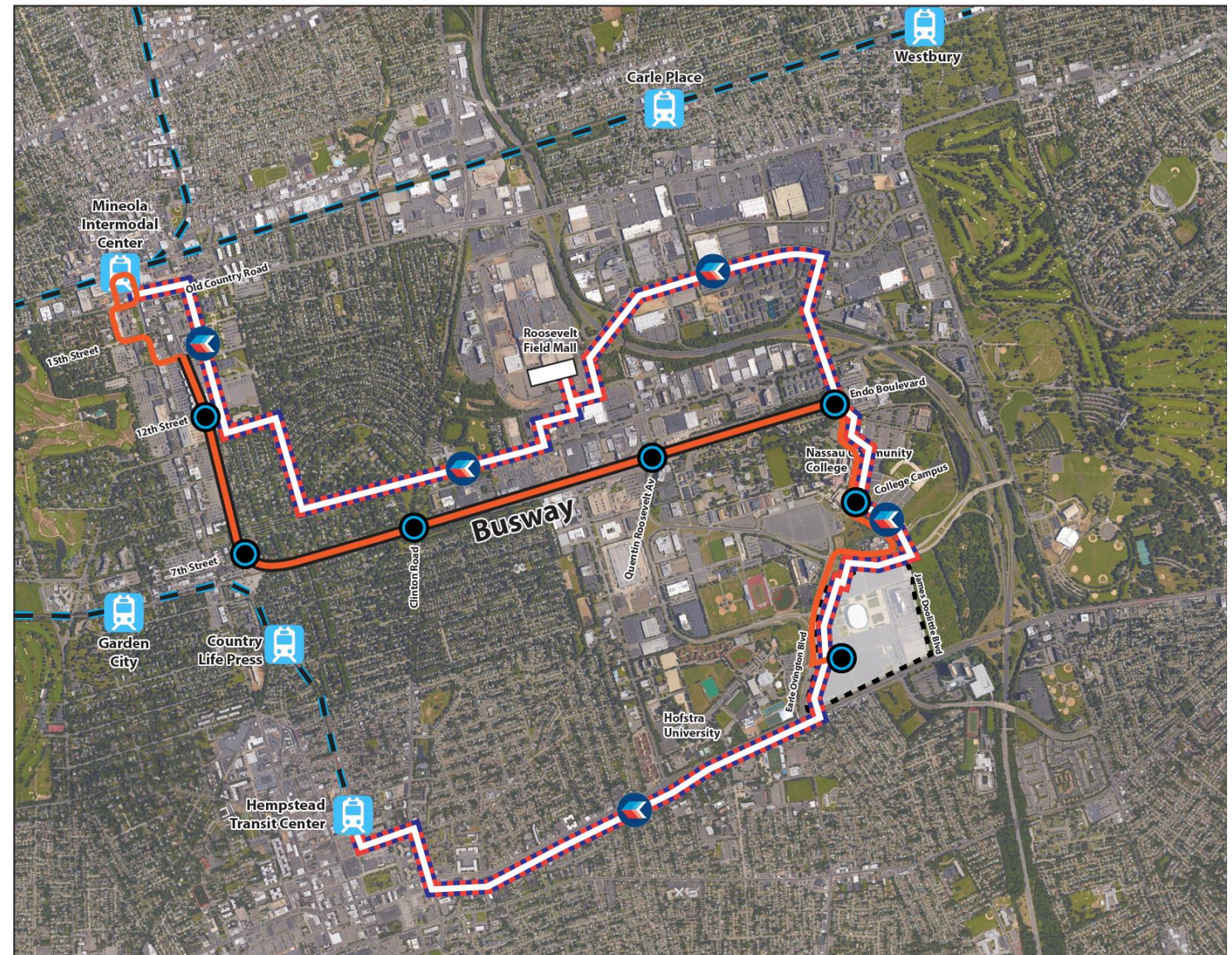
Evening

Required daily ridership: ~ 4,000 passengers

Attainable in Nassau County where at least five NICE Bus routes currently exceed this ridership

LINC and the Hubway would complement each other; the combined service would provide significantly improved transit mobility options for the Innovation District and the Nassau Hub area.

- The Hubway would provide rapid connections to Mineola, the Stewart Avenue corridor, and the County seat.
- LINC would connect the Innovation District with area retail destinations and the Hempstead Transit Center.
- The Roosevelt Field-Mineola LINC segment could potentially be realigned to make use of the Hubway, reducing travel times.
- **Combined service would provide area residents, employees, and visitors greater and more attractive transit options.**



The Hubway would provide substantial transit access benefits for the redeveloped Nassau Coliseum.

- The old Nassau Coliseum had a transit mode share for attendees of less than 1% primarily due to the lack of joint marketing and efficient connections between LIRR and the Coliseum.
- The Hubway would provide direct, efficient, and attractive transit connections to the LIRR, which the LINC would not.
- And the Hubway would make transit a viable option for travel to events from NYC and across the Island.



Implementation of LINC and the Hubway can occur concurrently, with easily implementable bus improvements first, followed by capital construction of the busway.

- LINC implementation could occur quickly, without proposed capital improvements and bus priority treatments necessary to obtain its full potential.
- Concurrently, planning and engineering for the Hubway should commence, with its completion introducing significant travel time savings and enhanced connectivity to Mineola.
- Upon opening of the Hubway, the LINC alignment could be relocated to the busway for further benefits to the region.



Transportation improvements in the Nassau Hub area are needed to create a competitive innovation district and can be achieved through short- and longer-term transit enhancements.

Short Term Enhancements

- Improve bus service by developing “transit corridors” to serve the Innovation District and Nassau Hub area.
- Modify bus routings and schedules at low- to moderate-costs.

Long Term Enhancements

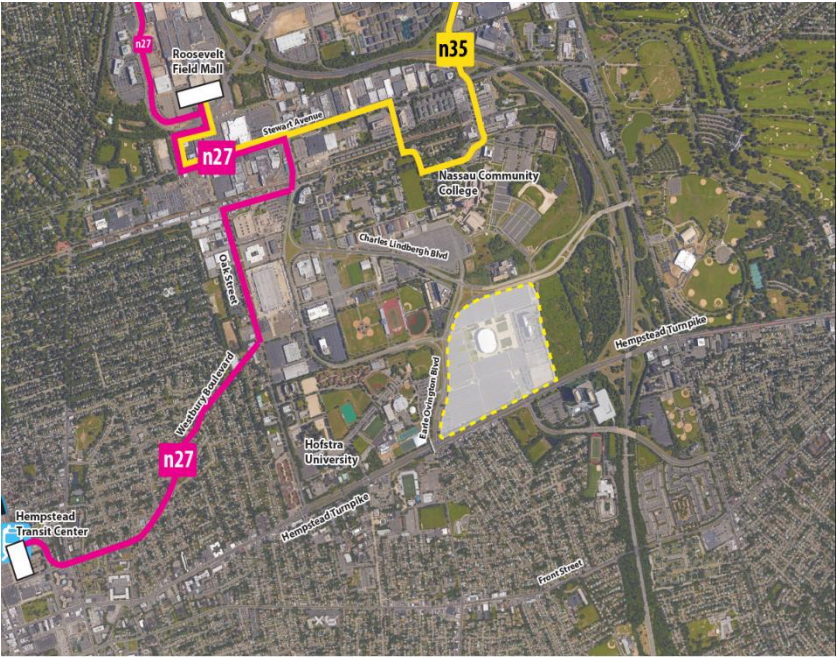
- Utilize the Secondary and the Mineola spur to create rapid connecting service to/from the Mineola Intermodal Center.
- Convert the existing LIRR right-of-way to a dedicated busway to attract transit riders at an implementable cost.
- Retain the option to upgrade future BRT service to a higher capacity mode as ridership expands.



**The Nassau Hub Innovation District Plan can be realized
and will result in positive impacts to the greater region.**

The Nassau Hub Innovation District Plan can be achieved by investing in the Hub area’s infrastructure, developing a sound governance and financing plan, and amending Town regulations to allow more density.

Infrastructure

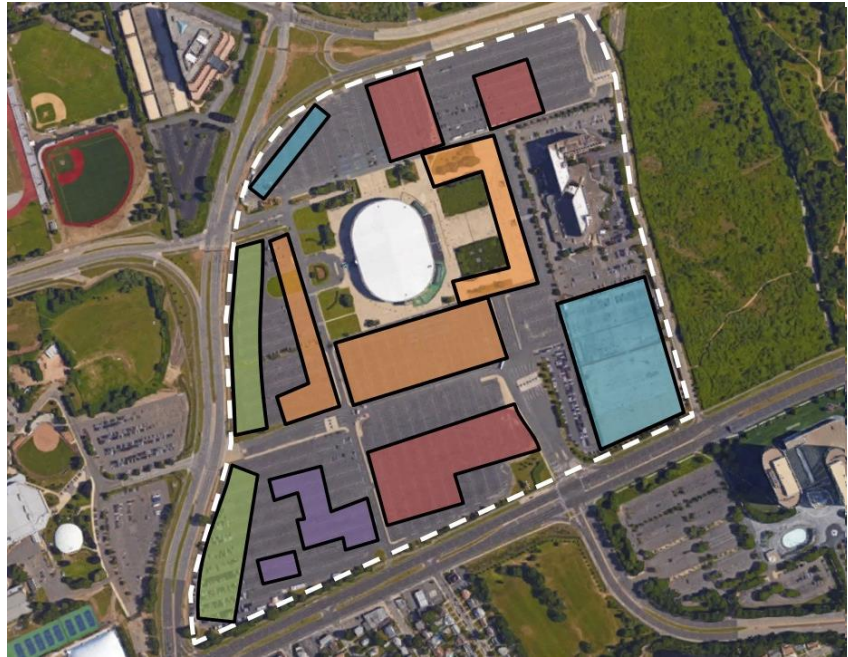


Existing NICE Bus Routings for N27 and N35

Governance & Financing



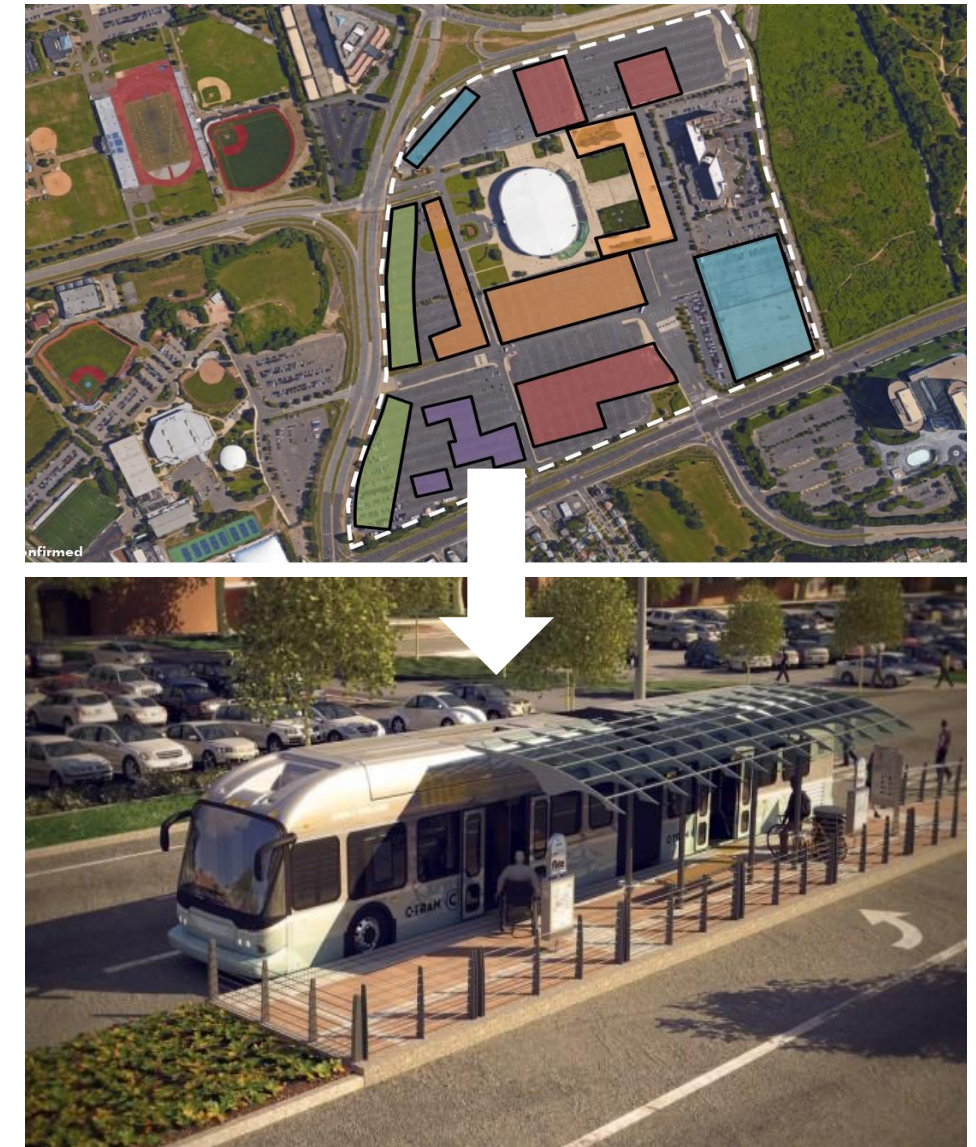
Regulatory Process



Enhancing transit service will improve transit mobility and ridership for the Nassau Hub Innovation District and the surrounding area.

Infrastructure

- Explore **improvements to existing NICE bus service.**
- Conduct feasibility study to explore **transit service along the Mineola Spur and the Secondary.**
- Enhance pedestrian and bike access with **streetscape improvements.**
- Develop **transportation demand management measures.**



The Nassau Hub Innovation District requires a permanent partnership of key stakeholders to oversee the area's long-term growth and development.

Governance & Financing

- Gather key stakeholders, including public, private, and institutional representatives to **initiate planning and governance for the Hub.**
- **Establish a board of directors and umbrella organization** with a mandate to govern the innovation hub and seek unique sources of funding.
- **Create a brand for the Hub area** that draws new investment and builds an identity for the Innovation District.
- Develop a plan that will generate **ongoing private and public funding and support.**



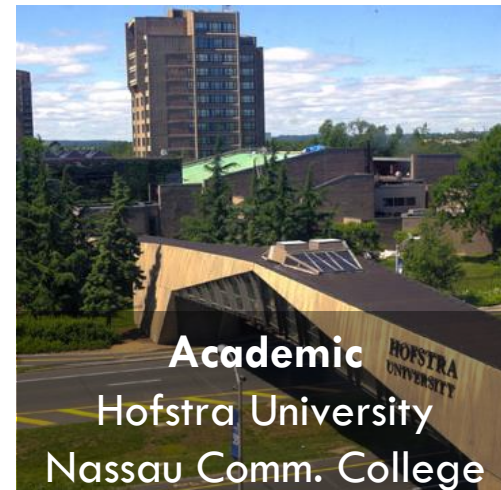
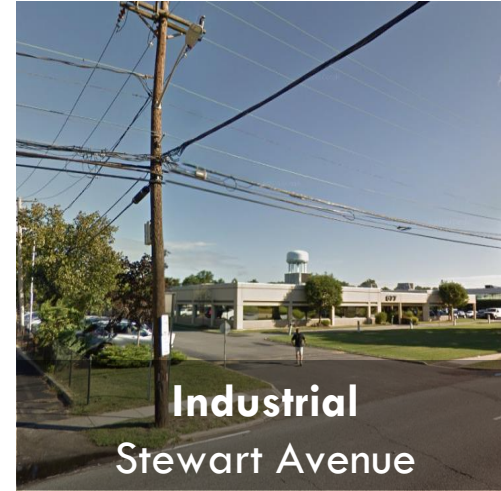
The Nassau Hub Innovation District requires zoning changes to allow for a mix of uses and denser development.

Regulatory Process

- **Amend zoning to accommodate multifamily housing and increased density.**
- **Revise the proposed mix of uses to increase residential and office development.**
- **Modify parking requirements.**



Transportation, regulatory changes, and regional coordination have the catalytic and transformative power to spur the long-term success of the Nassau Hub Innovation District and reshape the Hub area.



Improved transit is critical to development of the Innovation District and the surrounding area:

- Improved access to existing assets within and surrounding the Hub area can be leveraged to catalyze development and support growth in underutilized areas.
- Improved connectivity between area-wide assets – such as the addition of pedestrian access from Franklin Avenue to Garden City – can foster a vibrant Innovation District with 24/7 activity.

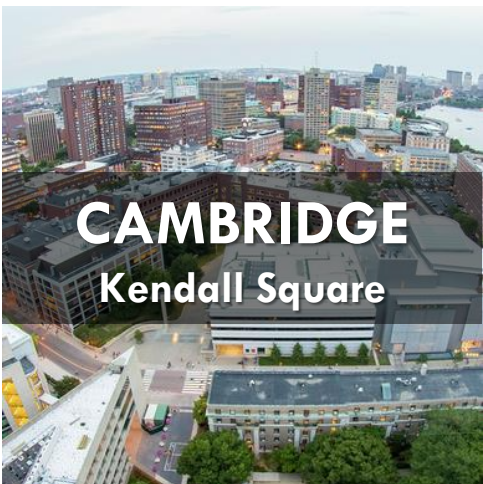
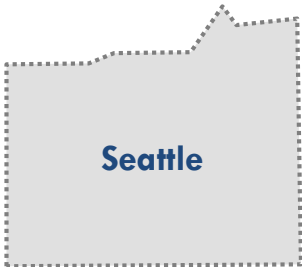
The Nassau Hub Innovation District Plan and the proposed Hubway have the potential to spur additional development outside the 77-acre site boundaries.



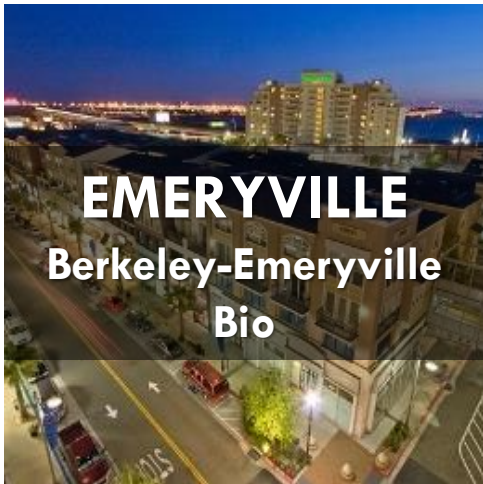
200 acres



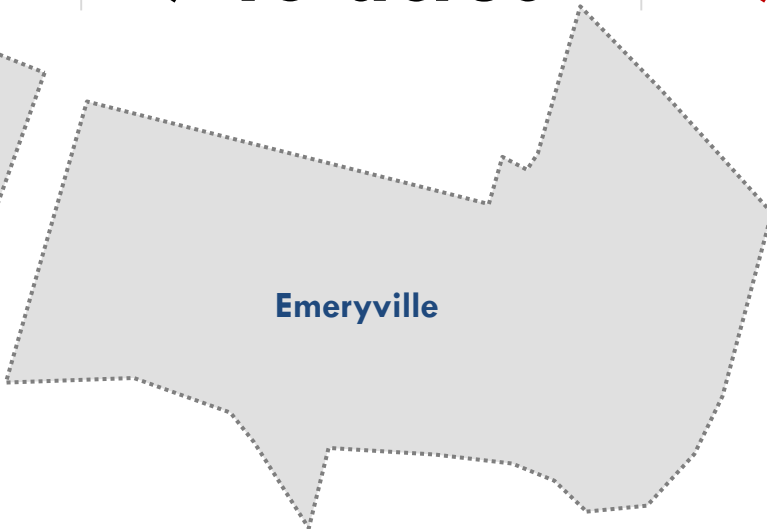
230 acres



280 acres



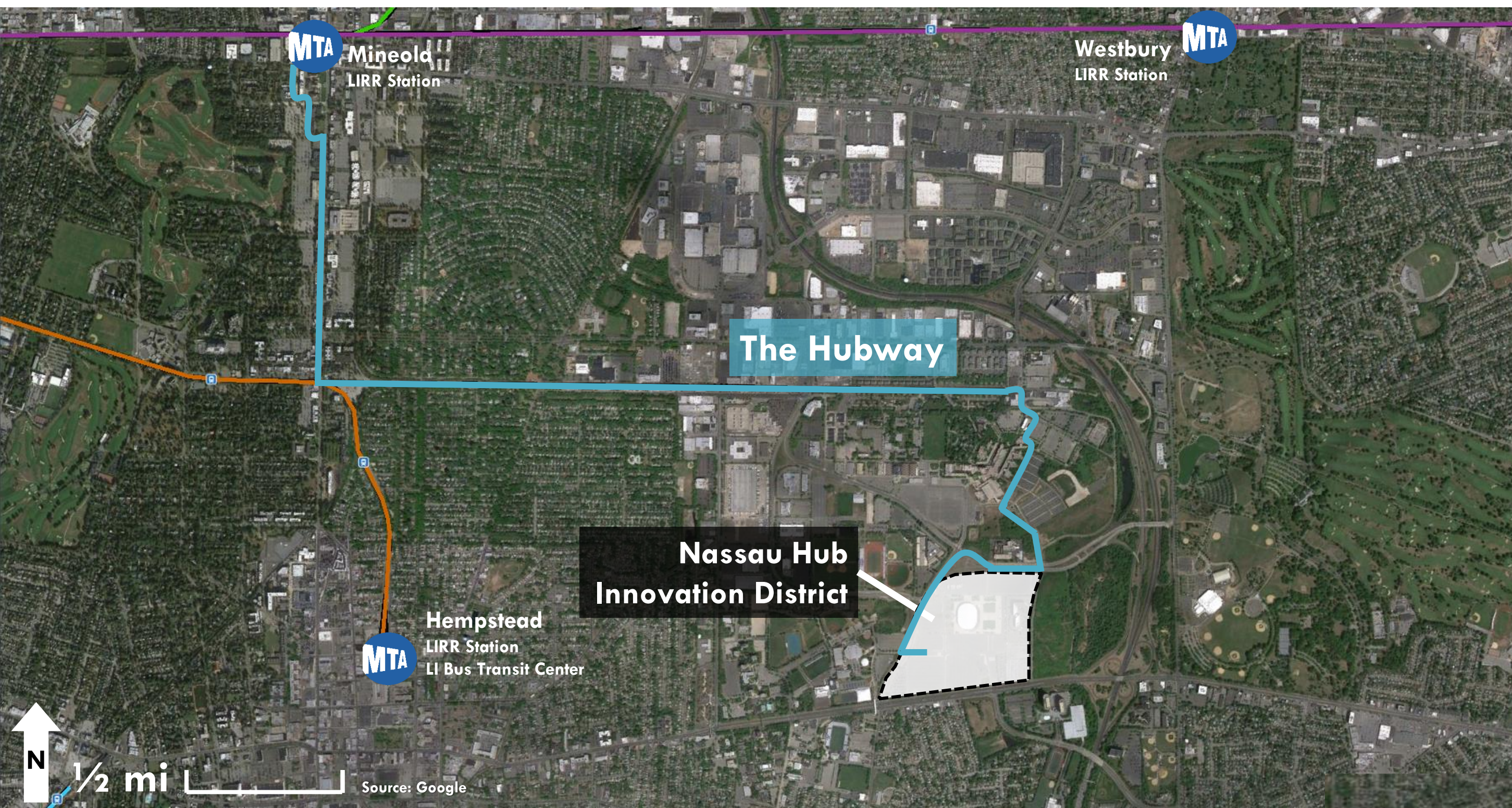
740 acres



77 acres



The Innovation District program could catalyze additional development outside of the 77-acre site, into the broader Hub area.



Mineola
LIRR Station



Westbury
LIRR Station

The Hubway

Nassau Hub
Innovation District



Hempstead
LIRR Station
LI Bus Transit Center



1/2 mi

Source: Google

Leveraging these investments, the Nassau Hub Innovation District can generate \$3.4B in economic activity to the State, over 14K new jobs at average annual earnings of \$65K, and \$47M in tax revenue to the County.

TOTAL ECONOMIC IMPACTS

COMPARED TO BIOTECH PARK PLAN

14,300

9,100 More Jobs Created

\$65,000

\$15,000 Higher Average Income of New Jobs

\$3.4 B

\$2.4 B Additional Economic Impact on NY State

TOTAL FISCAL IMPACTS

COMPARED TO BIOTECH PARK PLAN

\$30 M

\$21 M Additional Sales Tax Revenue to Nassau County

\$47 M

\$29 M Additional Property Tax Revenue for Nassau County, Hempstead and Uniondale Schools

Note: All dollar amounts are in 2017 dollars. Property tax breakdown: \$9.7 M to Nassau County; \$7.4 M to the Town of Hempstead; \$30.6 M to Uniondale Union Free Schools.

Source: HR&A Advisors; Bureau of Labor Statistics; New York State Department of Taxation and Finance.