



Lower Manhattan-Jamaica/JFK *Transportation Project*



Draft Long List of Alternatives

October 2005

Lead Project Sponsors



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**LM-Jamaica/JFK Airport Transportation Project
LONG LIST ALTERNATIVE DEVELOPMENT SUMMARY**

Background

The Federal Transit Administration (FTA), in cooperation with the Metropolitan Transportation Authority (MTA), The Port Authority of New York & New Jersey (PANYNJ) and the Lower Manhattan Development Corporation (LMDC), and supported by the New York City Economic Development Corporation (NYCEDC), is preparing an Alternatives Analysis and Environmental Impact Statement (EIS) to evaluate alternatives that provide improved commuter and airport access connecting Lower Manhattan with the Long Island Rail Road Jamaica Station in Queens and with JFK International Airport. The project is known as the Lower Manhattan-Jamaica/JFK Transportation Project. In this study, "Commuter" refers to the market between Long Island/Jamaica and Lower Manhattan and "Airport" refers to the market between JFK Airport and Lower Manhattan.

Long List Development

The preliminary Long List of alternatives was generated by gathering all alternatives from the previous LMDC feasibility study (Lower Manhattan Airport and Commuter Access Alternatives Analysis), the MTA Lower Manhattan Access Study, and the Draft JFK One-Seat Ride Study. This process generated 257 potential alternatives. Of those, 188 alternatives were not applicable to this study because they had already been implemented, did not serve the study area, were too vague, or served Midtown first. The remaining 69 alternatives which applied to the study area were the foundation of the Long List. The public scoping process for the current project generated 62 additional alternatives, and 10 alternatives added by the study team. The final Long List includes 141 alternatives. The 141 Long List alternatives were reviewed to evaluate whether there were similar or repetitive alternatives. As a result, 47 alternatives were consolidated/combined with others.

Grouping the Alternatives

In order to assist in the presentation and analysis of alternatives, the remaining 94 alternatives were placed in one of eleven groups based on key factors such as tunnel crossings, alignment and transit mode. The first table provides the name of each group and a brief description of the types of alternatives included in the group. The second table shows the actual placement of the alternatives in each group.

**LM-Jamaica/JFK Airport Transportation Project
LONG LIST ALTERNATIVE DEVELOPMENT SUMMARY**

ALTERNATIVE GROUP DESCRIPTIONS

Group	Name	Description
1	ATLANTIC BRANCH - NEW TUNNEL	Alternatives utilize LIRR Atlantic Branch from Jamaica or Howard Beach and connect to a new tunnel to Lower Manhattan
2	ATLANTIC BRANCH - MONTAGUE TUNNEL	Alternatives utilize LIRR Atlantic Branch from Jamaica or Howard Beach and connect to the existing (M/R) Montague Tunnel to Lower Manhattan
3	ATLANTIC BRANCH - CRANBERRY TUNNEL	Alternatives utilize LIRR Atlantic Branch from Jamaica or Howard Beach and connect to the existing (A/C) Cranberry Tunnel to Lower Manhattan
4	ATLANTIC BRANCH - CLARK TUNNEL	Alternatives utilize LIRR Atlantic Branch from Jamaica or Howard Beach and connect to the existing (2/3) Clark Street Tunnel to Lower Manhattan
5	ATLANTIC BRANCH - JORALEMON TUNNEL	Alternatives utilize LIRR Atlantic Branch from Jamaica or Howard Beach and connect to the existing (4/5) Joralemon Tunnel to Lower Manhattan
6	ATLANTIC BRANCH - RUTGERS TUNNEL	Alternatives utilize LIRR Atlantic Branch from Jamaica or Howard Beach and connect to the existing (F) Rutgers Tunnel to Lower Manhattan
7	ATLANTIC BRANCH - MANHATTAN AND WILLIAMSBURG BRIDGES	Alternatives utilize LIRR Atlantic Branch from Jamaica or Howard Beach and connect to the existing (B/D/N/Q) Manhattan or (J/M/Z) Williamsburg Bridges to Lower Manhattan
8	NON-ATLANTIC BRANCH RAIL ALIGNMENTS	Alternatives utilize Fulton (A/C) line, (J/Z) line or (2/3) line in Queens/Brooklyn to access existing tunnels/bridges to Lower Manhattan. These alternatives do not use the LIRR Atlantic Branch.
9	OTHER MODAL ALTERNATIVES	Includes ferry, bus, bus rapid transit (BRT) and highway alternatives
10	MIDTOWN OPTIONS	Alternatives serve Midtown first, with service continuing to Lower Manhattan
11	ENHANCEMENTS AND CHANGES TO EXISTING SYSTEM	Short term alternatives that propose changes or enhancements to existing services or policies.

**LM-Jamaica/JFK Airport Transportation Project
LONG LIST ALTERNATIVE DEVELOPMENT SUMMARY**

ALTERNATIVES INCLUDED IN EACH GROUP

Group	Name	Alternatives Included in Group	#
1	ATLANTIC BRANCH - NEW TUNNEL	2,3,4,5,6,7,8,31,71,72,74,75,76,80,90,97,120,121,123,128,130,132	22
2	ATLANTIC BRANCH - MONTAGUE TUNNEL	9,10,11,12,13,15,30,33,39,54,115,116,117,118	14
3	ATLANTIC BRANCH - CRANBERRY TUNNEL	40,45,46,47,48,49,59	7
4	ATLANTIC BRANCH - CLARK TUNNEL	60	1
5	ATLANTIC BRANCH - JORALEMON TUNNEL	25,56,79	3
6	ATLANTIC BRANCH - RUTGERS TUNNEL	57,58	2
7	ATLANTIC BRANCH - MANHATTAN AND WILLIAMSBURG BRIDGES	41,61,62,127	4
8	NON-ATLANTIC BRANCH RAIL ALIGNMENTS	16,17,18,43,50,51,52,53,55,85	10
9	OTHER MODAL ALTERNATIVES	20,23,38,63,102,119,133,134,135,136,137,138,139,140	14
10	MIDTOWN OPTIONS	78,81,84,92,96,141	6
11	ENHANCEMENTS AND CHANGES TO EXISTING SYSTEM	64,86,98,107,108,114,122,124,125,126,129	11
CONSOLIDATED LONG LIST ALTERNATIVES			94

This document summarizes the project's long list alternative development process and includes the following information:

(1) **Master Long List (p. 6-50)** - Description of 141 project alternatives. Columns include the alternative ID number, alternative title, a brief description, transit mode, markets served (i.e., whether alternative serves the airport, Long Island commuter, or Queens commuter markets), the East River crossing, implementation timeframe, and the source of the alternative.

(2) **Combined Alternatives (p. 52-61)** - Lists the 47 combined/consolidated alternatives. Columns include the same alternative ID number, name description and source, as is shown in the Master Long List; however, there is an additional column on the right hand side which shows why the alternative was combined and what alternative it has been combined with.

(3) **Group 1-11 Summaries (p. 63-92)** - Lists all 94 alternatives by group, including graphic depictions of each group. These maps provide a general graphic of the route for all of the alternatives within the group. In addition, for any individual alternative you can follow the columns as the route for the alternative moves from Lower Manhattan through Brooklyn, Queens or Long Island. This will help to understand the proposed East River crossing, alignment and stops included in each alternative.



Master Long List

Description and source of 141 project alternatives

LONG LIST OF ALTERNATIVES REPORT**At a Glance**

Alt. #	Name	Description	Mode	Market Served	ERX	Timeframe	Source
1	Jamaica to Atlantic Terminal Only	<ul style="list-style-type: none"> • Two seat airport service to LM from JFK on existing AirTrain right of way to Jamaica Station • Two seat commuter service to LM from Jamaica Station • Airport and commuter services continue west from Jamaica Station via converted LIRR Atlantic Branch to the existing Atlantic Terminal station, where passengers make a transfer connection to subway lines for the trip to LM. • This alternative could serve as an interim/phasing option for many of the other alternatives 	Rail-Hybrid	Both Airport and Commuter	N/A	Short	LMDC Feasibility Study
2	New Tunnel via Jamaica - Potential Second Ave Subway Connection	<ul style="list-style-type: none"> • One seat airport service to LM from JFK on existing AirTrain right of way via Jamaica Station • One seat commuter service to LM from Jamaica Station • Airport and commuter services continue west from Jamaica Station via converted LIRR Atlantic Branch with commuter stops at East New York and Nostrand Ave and a new station below Atlantic Terminal • Service continues to a new East River tunnel and terminates in a new LM station in vicinity of Fulton Transit Center and WTC • Potential for future connection to Second Ave Subway at Water St 	Rail-Hybrid	Both Airport and Commuter	New Tunnel	Long	LMDC Feasibility Study
3	New Tunnel - Split Service from Howard Beach and Jamaica	<ul style="list-style-type: none"> • One seat airport service to LM from JFK on existing AirTrain right of way via Howard Beach • One seat commuter service to LM from Jamaica Station • Airport service proceeds west from Howard Beach via the Fulton A Line with a connection via Old Rockaway Branch to converted LIRR Atlantic Branch in vicinity of Rockaway Blvd • Commuter service proceeds west from Jamaica on the LIRR Atlantic Branch • Commuter service makes stops at East New York and Nostrand Ave and both services stop at a new station below Atlantic Terminal • Service continues through a new East River tunnel and terminates in a new LM station in vicinity of Fulton Transit Center and WTC 	Rail	Both Airport and Commuter	New Tunnel	Long	LMDC Feasibility Study

LONG LIST OF ALTERNATIVES REPORT*At a Glance*

Alt. #	Name	Description	Mode	Market Served	ERX	Timeframe	Source
4	New Tunnel - Jamaica Commuter Service Only	<ul style="list-style-type: none"> • Two seat airport service to LM from JFK on existing AirTrain right of way, requiring transfer from AirTrain at Jamaica Station to new commuter service • One seat commuter service to LM from Jamaica Station • Commuter service continues west from Jamaica Station via LIRR Atlantic Branch with stops at East New York, Nostrand Ave and a new station stop below Atlantic Terminal • Service continues through a new East River tunnel and terminates in a new LM station in vicinity of Fulton Transit Center and WTC 	Rail	Commuter Only	New Tunnel	Long	LMDC Feasibility Study
5	New Tunnel via Jamaica - 8th Ave Line Connection	<ul style="list-style-type: none"> • One seat airport service to LM from JFK on existing AirTrain right of way via Jamaica Station • One seat commuter service to LM from Jamaica Station • Airport and commuter services continue west from Jamaica Station via converted LIRR Atlantic Branch with commuter stops at East New York and Nostrand Ave and a new station stop for both services below Atlantic Terminal • Service continues through a new East River tunnel • Tunnel alignment is to southern tip of LM, with service connecting to the 8th Ave Line E at the existing WTC station • A separate airport station area is provided in the vicinity of WTC and Fulton Transit Ctr • Commuter service continues on the 8th Ave Line stations north of WTC 	Rail-Hybrid	Both Airport and Commuter	New Tunnel	Long	LMDC Feasibility Study

LONG LIST OF ALTERNATIVES REPORT**At a Glance**

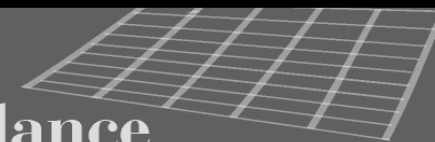
Alt. #	Name	Description	Mode	Market Served	ERX	Timeframe	Source
6	New Tunnel via Jamaica - 6th Ave Line Connection	<ul style="list-style-type: none"> • One seat airport service to LM from JFK on existing AirTrain right of way via Jamaica Station • One seat commuter service to LM from Jamaica Station • Airport and commuter services continue west from Jamaica Station via converted LIRR Atlantic Branch with commuter stops at East New York and Nostrand Ave and a new station stop for both services below Atlantic Terminal • Service continues through a new East River tunnel • Tunnel alignment is to southern tip of LM, connecting to the 8th Ave Line E, with a stop at the existing WTC station • A separate airport station area is provided in the vicinity of WTC and Fulton Transit Ctr • Commuter service continues north on 8th Ave Line from WTC to W4th St, where it shifts to the 6th Ave Line B/D/F/V 	Rail-Hybrid	Both Airport and Commuter	New Tunnel	Long	LMDC Feasibility Study
7	New Tunnel - Split Service to Howard Beach/JFK and Jamaica Eastbound	<ul style="list-style-type: none"> • One seat airport service to LM from JFK on existing AirTrain right of way via Jamaica Station • One seat commuter service to LM from Jamaica Station • Airport and commuter services continue west from Jamaica Station via converted LIRR Atlantic Branch with commuter stops at East New York and Nostrand Ave and a new station stop for both services below Atlantic Terminal • Service continues through a new East River tunnel and terminates in a new LM station in the vicinity of the Fulton Transit Center and WTC • On the eastbound airport trip to JFK from the LM terminal, service is to Howard Beach via the new East River tunnel, the Atlantic Branch and the Fulton A line via the Old Rockaway Branch connection 	Rail-Hybrid	Both Airport and Commuter	New Tunnel	Long	LMDC Feasibility Study

LONG LIST OF ALTERNATIVES REPORT**At a Glance**

Alt. #	Name	Description	Mode	Market Served	ERX	Timeframe	Source
8	New Tunnel via Jamaica - 7th Ave Line Connection	<ul style="list-style-type: none"> • One seat airport service to LM from JFK on existing AirTrain right of way via Jamaica Station • One seat commuter service to LM from Jamaica Station • Airport and commuter services continue west from Jamaica Station via converted LIRR Atlantic Branch, with commuter stops at East New York and Nostrand Ave and a new station stop for both services below Atlantic Terminal • Service continues through a new East River tunnel • Tunnel alignment is to southern tip of LM, with commuter service connecting to the 7th Ave Line 1/2/3, with commuter stops at South Ferry, Rector St and Cortlandt St stations • Commuter service continues north on 7th Ave Line from Cortlandt St • A separate airport terminal is located near the Cortlandt St Station with connection to the WTC 	Rail-Hybrid	Both Airport and Commuter	New Tunnel	Long	LMDC Feasibility Study
9	Montague Tunnel via Jamaica and 4th Ave Line	<ul style="list-style-type: none"> • One seat airport service to LM from JFK on existing AirTrain right of way via Jamaica Station • One seat commuter service to LM from Jamaica Station • Airport and commuter services continue west from Jamaica Station via converted LIRR Atlantic Branch with commuter stops at East New York and Nostrand Ave and a new station stop for both services below Atlantic Terminal • Service continues via a connection to the 4th Ave/Nassau St Line M • Commuter service replaces M service west of the connection, making stops at DeKalb Ave, Lawrence St and Court St stations • Both services continue through the Montague St Tunnel • In LM the airport service connects to the Broadway Line Q/N/R and terminates at a station beneath Church St • Commuter service continues on the Nassau line and terminates at the Fulton-Broadway/Nassau Station 	Rail-Hybrid	Both Airport and Commuter	Montague Tunnel	Long	LMDC Feasibility Study

LONG LIST OF ALTERNATIVES REPORT**At a Glance**

Alt. #	Name	Description	Mode	Market Served	ERX	Timeframe	Source
10	Montague Tunnel - Split Service from Howard Beach and Jamaica	<ul style="list-style-type: none"> • One seat airport service to LM from JFK on existing AirTrain right of way via Howard Beach • One seat commuter service to LM from Jamaica Station • Airport service continues west from Howard Beach via the Fulton Line A, with a connection via Old Rockaway Branch to converted LIRR Atlantic Branch in vicinity of Rockaway Blvd • Commuter service proceeds west from Jamaica on the LIRR Atlantic Branch, with commuter stops at East New York and Nostrand Ave and a new station stop below Atlantic Terminal, followed by a connection to the 4th Ave/Nassau St Line M • Commuter service replaces M service west of the connection, making stops at DeKalb Ave, Lawrence St and Court St stations • Both services continue through the Montague Tunnel • The airport service connects to the Broadway Line N/Q/R and terminates at a new station beneath Church St • Commuter service continues on the Nassau Line and terminates at the Fulton-Broadway/Nassau Station 	Rail-Hybrid	Both Airport and Commuter	Montague Tunnel	Long	LMDC Feasibility Study
11	Montague Tunnel Commuter Service Only from Jamaica	<ul style="list-style-type: none"> • Two seat airport service to LM from JFK on existing AirTrain right of way via Jamaica Station • One seat commuter service to LM from Jamaica Station • Airport passengers transfer to new commuter service at Jamaica Station • Commuter service proceeds west from Jamaica Station via converted LIRR Atlantic Branch, with stops at East New York and Nostrand Ave and a new station stop below Atlantic Terminal • Service continues via a connection to the 4th Ave/Nassau St Line M • Commuter service replaces M service west of the connection, making stops at DeKalb Ave, Lawrence St and Court St stations and continues through Montague Tunnel • Commuter service continues on the Nassau J/M/Z line and terminates at the Fulton-Broadway/Nassau Station 	Rail	Commuter Only	Montague Tunnel	Long	LMDC Feasibility Study

LONG LIST OF ALTERNATIVES REPORT*At a Glance*

Alt. #	Name	Description	Mode	Market Served	ERX	Timeframe	Source
12	Montague Tunnel via Jamaica - Nassau St Line Connection	<ul style="list-style-type: none"> • One seat airport service to LM from JFK on existing AirTrain right of way via Jamaica Station • One seat commuter service to LM from Jamaica Station • Airport and commuter services continue west from Jamaica Station via converted LIRR Atlantic Branch, with commuter stops at East New York and Nostrand Ave and a new station stop for both services below Atlantic Terminal • Service continues with a connection to the 4th Ave/Nassau St Line M • Commuter service replaces existing M service west of the connection, making stops at DeKalb Ave, Lawrence St and Court St stations • Service then proceeds through the Montague Tunnel • In LM the airport service connects to the Broadway line N/Q/R and terminates at a new station beneath Church St • Commuter service continues on the Nassau Line J/M/Z to the Fulton-Broadway/Nassau Station and to Nassau Line stations north and into Queens 	Rail-Hybrid	Both Airport and Commuter	Montague Tunnel	Long	LMDC Feasibility Study

LONG LIST OF ALTERNATIVES REPORT**At a Glance**

Alt. #	Name	Description	Mode	Market Served	ERX	Timeframe	Source
13	Montague Tunnel - Split Service from Howard Beach and Jamaica - Broadway Line Connection	<ul style="list-style-type: none"> • One seat airport service to LM from JFK on existing AirTrain right of way via Howard Beach • One seat commuter service to LM from Jamaica Station • Airport service continues west from Howard Beach via the Fulton Line A, with a connection via Old Rockaway Branch to converted LIRR Atlantic Branch in vicinity of Rockaway Blvd • Commuter service proceeds west from Jamaica on the LIRR Atlantic Branch • Commuter service stops at East New York and Nostrand Ave stations and both services stop at a new station below Atlantic Terminal, followed by a connection to the 4th Ave/Nassau St Line M • Commuter service replaces M service west of the connection, making stops at DeKalb Ave, Lawrence St and Court St stations • Both services continue through the Montague Tunnel and connect to the Broadway Line N/Q/R • Airport service terminates at a new station beneath Church St near the WTC • Commuter service continues on the Broadway Line serving Manhattan stations to a 57th St terminal 	Rail-Hybrid	Both Airport and Commuter	Montague Tunnel	Long	LMDC Feasibility Study
14	New Tunnel - Airport Service only via Howard Beach and Old Rockaway Branch	<ul style="list-style-type: none"> • One seat airport service to LM from JFK on existing AirTrain right of way via Howard Beach • No new commuter service to LM from Jamaica Station • Service connects to the Old Rockaway Branch to Woodhaven Junction where it connects to the LIRR's Atlantic Branch • The service then proceeds to Atlantic Terminal where it continues on through a new LIRR connection to LM 	Rail-Hybrid	Airport Only	New Tunnel	Long	JFK One Seat Ride Study

LONG LIST OF ALTERNATIVES REPORT**At a Glance**

Alt. #	Name	Description	Mode	Market Served	ERX	Timeframe	Source
15	Montague Tunnel or Manhattan Bridge - Airport Service Only via Howard Beach	<ul style="list-style-type: none"> • One seat airport service to LM from JFK on existing AirTrain right of way via Howard Beach • No new commuter service to LM from Jamaica Station • Service connects to the Old Rockaway Branch and proceeds to Woodhaven Junction, where it connects to the LIRR's Atlantic Branch • The service then proceeds to Atlantic Terminal • At that point, a connection is made to the 4th Ave Line, east of the DeKalb Ave station • Trains can then use either the Montague Tunnel or the Manhattan Bridge to enter Manhattan • If the Montague Tunnel is used, trains can terminate along the Nassau St Line, or proceed uptown on the Broadway Line, sharing tracks with the LaGuardia service • Assuming the Manhattan Bridge is fully open, connections can be made via the bridge to the Broadway Line or the 6th Ave Line • Connections to the Rutgers Tunnel are also possible 	Rail-Hybrid	Airport Only	Montague or Manhattan Bridge	Long	JFK One Seat Ride Study
16	Cranberry or Rutgers Tunnel - Airport Service only via Howard Beach and Fulton Line	<ul style="list-style-type: none"> • One seat airport service to LM from JFK on existing AirTrain right of way via Howard Beach • No new commuter service to LM from Jamaica Station • Airport trains join existing Rockaway service and share the express track with A service, into the Jay St Station • At this point service would either travel via the Cranberry St Tunnel and the 8th Ave Line or the Rutgers Tunnel into Manhattan to the W 4th St Station • At W 4th St service would continue north via either the 8th Ave Line or 6th Ave Line • A possible terminal on the 8th Ave Line is on the lower level of the 42nd St Station 	Rail-Hybrid	Airport Only	Montague or Cranberry	Long	JFK One Seat Ride Study

LONG LIST OF ALTERNATIVES REPORT**At a Glance**

Alt. #	Name	Description	Mode	Market Served	ERX	Timeframe	Source
17	Cranberry Tunnel - Airport Service only via Howard Beach and Fulton Line-Conduit Ave Connection	<ul style="list-style-type: none"> • One seat airport service to LM from JFK on existing AirTrain right of way via Howard Beach • No new commuter service to LM from Jamaica Station • Service via Howard Beach to a right-of-way along Conduit Ave, connecting to the Fulton St Line A through Cranberry Tunnel to LM 	Rail-Hybrid	Airport Only	Cranberry	Long	JFK One Seat Ride Study
18	Clark Tunnel - Airport Service only via Howard Beach and 7th Ave Line Connection	<ul style="list-style-type: none"> • One seat airport service to LM from JFK on existing AirTrain right of way via Howard Beach • No new commuter service to LM from Jamaica Station • Service would proceed from Howard Beach and connect to a new elevated structure to the 2/3 service at New Lots Ave • The service continues on the 2/3 route through the Clark Tunnel into LM 	Rail-Hybrid	Airport Only	Clark Tunnel	Long	JFK One Seat Ride Study
19	Montague Tunnel LIRR Atlantic Branch Loop via Nassau St Line	<ul style="list-style-type: none"> • Conversion of the Atlantic Branch to a rapid transit operation • Connect Atlantic Branch to Montague Tunnel and created a loop service via Nassau line to Jamaica 	Rail	Commuter	Montague and Williamsburg	Long Term	Lower Manhattan Access Study
20	HOV Access from Long Island	<ul style="list-style-type: none"> • Direct HOV access for residents of Long Island who work in LM to reduce single occupancy auto travel 	Highway/Bus and Auto	Passenger Car/Bus	TBD	Short Term	Lower Manhattan Access Study
21	LIRR Extension from Atlantic Terminal to LM and from Long Island City to Grand Central Terminal	<ul style="list-style-type: none"> • Extend commuter rail from Atlantic Terminal to LM and from Long Island City to Grand Central Terminal 	Rail	Commuter	TBD	Long Term	Lower Manhattan Access Study
22	LIRR Extension from Atlantic Terminal to LM	<ul style="list-style-type: none"> • Extend LIRR Atlantic Branch in Brooklyn to Battery Park, South St or City Hall 	Rail	Commuter	TBD	Long Term	Lower Manhattan Access Study

LONG LIST OF ALTERNATIVES REPORT*At a Glance*

Alt. #	Name	Description	Mode	Market Served	ERX	Timeframe	Source
23	Ferry Service from North Shore of Long Island (Glen Cove) to LM	• Ferry service from Long Island's North Shore (Glen Cove) to two LM terminals (East and West Side)	Ferry	Commuter	Ferry	Short Term	Lower Manhattan Access Study
24	Hybrid Commuter Rail/Subway Cars	• Use of a hybrid vehicle that operates on both commuter rail and subway tracks for a one-seat commute from the suburbs	Rail	TBD	TBD	Long Term	Lower Manhattan Access Study
25	Atlantic Terminal Express Subway Service to Wall St	• Express service from Atlantic Terminal with Wall St as the first stop	Rail	Commuter	Joralemon or Clark Tunnel	Short Term	Lower Manhattan Access Study
26	Regional Express Rail from Atlantic Terminal to LM and Grand Central Terminal	• Construct a new line from Atlantic Ave Terminal to Grand Central Terminal, with a stop in LM	Rail	Commuter	TBD	Long Term	Lower Manhattan Access Study
27	Atlantic Branch Converted to Division B Standards	• Convert Atlantic Branch LIRR Line to modified Division B standards, build a track connection at Atlantic Terminal and operate through trains to Manhattan	Rail	Commuter	TBD	Long Term	Lower Manhattan Access Study
28	LIRR Service from Atlantic Terminal via Governor's Island Station	• Extend LIRR service through the Atlantic Ave tunnel under the Governor's Island Station to either the vicinity of South Ferry or the World Trade Center • Use of Conrail freight structure and additions down West St to Brooklyn Battery Tunnel	Rail	Commuter	New Tunnel	Long Term	Lower Manhattan Access Study
29	Shuttle Service from Grand Central Terminal and/or Jamaica to LM	• Construct or utilize existing rights-of-way such as the BMT Broadway Line or LIRR Atlantic Branch for high quality shuttle service from Grand Central Terminal and/or Jamaica to Lower Manhattan	Rail	Commuter	TBD	Long Term	Lower Manhattan Access Study

LONG LIST OF ALTERNATIVES REPORT*At a Glance*

Alt. #	Name	Description	Mode	Market Served	ERX	Timeframe	Source
30	Atlantic Branch Converted to Subway Service - BMT Connection	<ul style="list-style-type: none"> • Convert the LIRR Atlantic Branch to NYCT service and connect the Atlantic Branch to the BMT subway • This service would provide a limited-stop rapid transit service directly from the LIRR's Jamaica platforms 	Rail	Commuter	Montague	Long Term	Lower Manhattan Access Study
31	New Tunnel - Extend LIRR Commuter Service from Long Island to LM	<ul style="list-style-type: none"> • Two seat airport service to LM from JFK, requiring transfer from AirTrain at Jamaica Station to new commuter service • One seat commuter service to LM from Long Island on LIRR service, with a Jamaica Station stop • Commuter service continues west from Jamaica Station via LIRR Atlantic Branch with stops at East New York, Nostrand Ave and a new station stop below Atlantic Terminal • Service continues through a new East River tunnel and terminates in a new LM station in vicinity of Fulton Transit Center and WTC 	Rail	Commuter Only	New Tunnel	Long Term	Lower Manhattan Access Study
32	New Tunnel from Penn Station to LM	<ul style="list-style-type: none"> • Construct a new railroad tunnel from Penn Station to a new LM station or stations • One potential option for this alternative would extend the tunnel to Atlantic Terminal in Brooklyn to allow through running of service 	Rail	Commuter	TBD	Long Term	Lower Manhattan Access Study
33	Montague Tunnel - BMT Connection	<ul style="list-style-type: none"> • Connect the LIRR's Atlantic Branch to the N/Q/R/M/J/Z subway lines, with the operation of special [hybrid] commuter rail trains through the Montague Tunnel to LM 	Rail	Commuter	Montague	Long Term	Lower Manhattan Access Study
34	Bus and HOV Lanes from Key Suburbs	<ul style="list-style-type: none"> • Provide service to LM using dedicated bus or high-occupancy vehicle lanes to improve access from key suburban areas 	Highway/Bus and Auto	Passenger Car/Bus	TBD	Short Term	Lower Manhattan Access Study
35	Convert LIRR Atlantic Branch to Subway Service	<ul style="list-style-type: none"> • Convert the LIRR Atlantic Branch (between Jamaica Station and Atlantic Ave Terminal) into a New York City Transit rapid transit line 	Rail	Commuter	TBD	Short Term	Lower Manhattan Access Study

LONG LIST OF ALTERNATIVES REPORT**At a Glance**

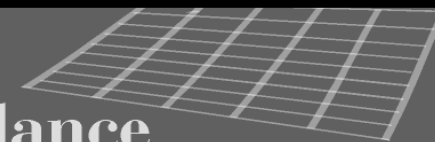
Alt. #	Name	Description	Mode	Market Served	ERX	Timeframe	Source
36	Convert LIRR Atlantic Branch to Subway Service-Division A	<ul style="list-style-type: none"> • Convert LIRR Atlantic Branch to A Division standards, build downtown Brooklyn tunnel connection and abandon Atlantic Terminal 	Rail	Commuter TBD	TBD	Long Term	Lower Manhattan Access Study
37	New Tunnel - LIRR Atlantic Branch Extension	<ul style="list-style-type: none"> • Extend LIRR Atlantic Branch from the vicinity of the present LIRR Atlantic Terminal to the foot of Atlantic Ave and Furman St • Build a new rail tunnel to LM 	Rail	Commuter	New Tunnel	Long Term	Lower Manhattan Access Study
38	Ferry Service from South Shore of Long Island (Long Beach) to LM	<ul style="list-style-type: none"> • Ferry service from Long Island's South Shore (Long Beach) to two LM terminals (East and West sides) • Service could be combined with JFK-South Shore ferry service 	Ferry	Commuter	Ferry	Short Term	Consultant Team
39	Montague Tunnel - LM Loop Service	<ul style="list-style-type: none"> • Connect LIRR Atlantic Branch with NYCT 4th Ave Line M in Downtown Brooklyn for LIRR access to the Montague Tunnel • In LM provide a new loop rail service through the Financial District, using the Nassau St Line J/M/Z 	Rail	Commuter	Montague	Long Term	Lower Manhattan Access Study
40	Cranberry Tunnel via Fulton Line	<ul style="list-style-type: none"> • Connect LIRR Atlantic Branch with NYCT Fulton St Line A in East New York to provide new "through running" LIRR service to Downtown Brooklyn • Proceed to LM via the Cranberry Tunnel • Use the 8th Ave and 6th Ave Lines 	Rail	Commuter	Cranberry	Long Term	Lower Manhattan Access Study
41	Existing Tunnel Westbound and Manhattan Bridge Eastbound - Nassau St Loop	<ul style="list-style-type: none"> • Extend the Atlantic Branch from Atlantic Terminal west to connect to existing subway tunnels to LM and to a new "Nassau St Loop" • The loop service returns east to Brooklyn via the Manhattan Bridge to the Atlantic Terminal 	Rail	Commuter	Manhattan Bridge/existing tunnels	Long Term	Lower Manhattan Access Study
42	New Tunnel to Replace Manhattan Bridge Service	<ul style="list-style-type: none"> • Construct a new East River rail tunnel • This tunnel replaces the Manhattan Bridge subway tracks with a subway tunnel that would be able to accommodate an extension of the Atlantic Branch 	Rail	Commuter	New Tunnel	Long Term	Lower Manhattan Access Study

LONG LIST OF ALTERNATIVES REPORT**At a Glance**

Alt. #	Name	Description	Mode	Market Served	ERX	Timeframe	Source
43	Express JZ from Jamaica to LM	<ul style="list-style-type: none"> • Realign the track between Norwood Ave and 75th St/Elderts Lane stations on the J/Z • Straightening of the alignment could enable this line to accommodate express service between LM and Jamaica Station 	Rail	Commuter	Williamsburg Bridge	Short Term	Lower Manhattan Access Study
44	New Tunnel - Second Ave Subway to Grand Central Terminal	<ul style="list-style-type: none"> • Provide high speed-high amenity express service from a new Grand Central "under" Terminal, via Second Ave Subway, to Nassau St Station • A second service operates via Second Ave Subway to Water St and to Brooklyn via new tunnel 	Rail	Commuter	New Tunnel	Long Term	Lower Manhattan Access Study
45	Cranberry Tunnel via Jamaica and Fulton Line	<ul style="list-style-type: none"> • One seat airport service to LM from JFK on existing AirTrain right of way via Jamaica Station • One seat commuter service to LM from Jamaica Station • Airport and commuter services continue west from Jamaica Station via converted LIRR Atlantic Branch with commuter stops at East New York and Nostrand Ave and a new station stop for both services below Atlantic Terminal • Service continues to a new connection with the Fulton St Line A with an additional commuter stop at the existing Jay St /Borough Hall Station • Service proceeds through the Cranberry Tunnel and in LM connects to the 8th Ave Line • Commuter service terminates at the Fulton-Broadway/Nassau Station, while airport service terminates nearby, in the vicinity of the Fulton Transit Ctr and WTC • Due to Cranberry Tunnel capacity constraints (currently operating 27 TPH during peak), C trains are diverted to the Rutgers St Tunnel F service 	Rail-Hybrid	Both Airport and Commuter	Cranberry Tunnel	Long	LMDC Feasibility Study

LONG LIST OF ALTERNATIVES REPORT*At a Glance*

Alt. #	Name	Description	Mode	Market Served	ERX	Timeframe	Source
46	Cranberry Tunnel - Split Service from Howard Beach via Old Rockaway Branch and from Jamaica	<ul style="list-style-type: none"> • One seat airport service to LM from JFK on existing AirTrain right of way via Howard Beach Station • One seat commuter service to LM from Jamaica Station. Airport service proceeds west from Howard Beach via the Fulton Line A with a connection via Old Rockaway Branch to converted LIRR Atlantic Branch in vicinity of Rockaway Blvd • Commuter service proceeds west from Jamaica on the LIRR Atlantic Branch • Commuter service makes stops at East New York and Nostrand Av and both services stop at a new station below Atlantic Terminal • Service then continues to a new connection with the Fulton St Line A, with an additional commuter stop at the existing Jay St/Borough Hall Station • Service proceeds through the Cranberry Tunnel and in LM connects to the 8th Ave Line • Commuter service terminates at the Fulton-Broadway/Nassau Station, while airport service terminates nearby, in the vicinity of the Fulton Transit Ctr and WTC • Due to Cranberry Tunnel capacity constraints (currently operating 27 TPH during peak), C trains are diverted to the Rutgers St Tunnel F service 	Rail-Hybrid	Both Airport and Commuter	Cranberry Tunnel	Long	LMDC Feasibility Study

LONG LIST OF ALTERNATIVES REPORT*At a Glance*

Alt. #	Name	Description	Mode	Market Served	ERX	Timeframe	Source
47	Cranberry Tunnel via Jamaica and Euclid Ave Fulton Line Connection	<ul style="list-style-type: none"> • One seat airport service to LM from JFK on existing AirTrain right of way via Jamaica Station • One seat commuter service to LM from Jamaica Station • Airport and commuter services continue west from Jamaica Station via converted LIRR Atlantic Branch to a new connection with the Fulton St Line A in the vicinity of the Euclid Av Station, followed by an additional commuter stop at the existing Jay St/Borough Hall Station <p>Service proceeds through the Cranberry Tunnel and in LM connects to the 8th Ave Line</p> <ul style="list-style-type: none"> • Commuter service terminates at the Fulton-Broadway/Nassau Station, while airport service terminates nearby, in the vicinity of the Fulton Transit Ctr and WTC • Due to Cranberry Tunnel capacity constraints (currently operating 27 TPH during peak), C trains are diverted to the Rutgers St Tunnel F service 	Rail-Hybrid	Both Airport and Commuter	Cranberry Tunnel	Long	LMDC Feasibility Study

LONG LIST OF ALTERNATIVES REPORT**At a Glance**

Alt. #	Name	Description	Mode	Market Served	ERX	Timeframe	Source
48	Cranberry Tunnel Split Service from Howard Beach and from Jamaica - via Fulton Line	<ul style="list-style-type: none"> • One seat airport service to LM from JFK on existing AirTrain right of way via Howard Beach Station • One seat commuter service to LM from Jamaica Station • Airport service proceeds west from Howard Beach via the Fulton Line A through downtown Brooklyn • Commuter service proceeds west from Jamaica on the LIRR Atlantic Branch • Commuter service makes stops at East New York, Nostrand Av and a new station below Atlantic Terminal • Commuter service then continues to a new connection with the Fulton St Line A, with both an airport and commuter stop at the existing Jay St /Borough Hall Station • Both services proceed through the Cranberry Tunnel and in LM connect to the 8th Ave Line • Commuter service terminates at the Fulton-Broadway/Nassau Station, while airport service terminates nearby, in the vicinity of the Fulton Transit Ctr and WTC • Due to Cranberry Tunnel capacity constraints (currently operating 27 TPH during peak), C trains are diverted to the Rutgers St Tunnel F service 	Rail-Hybrid	Both Airport and Commuter	Cranberry Tunnel	Long	LMDC Feasibility Study

LONG LIST OF ALTERNATIVES REPORT*At a Glance*

Alt. #	Name	Description	Mode	Market Served	ERX	Timeframe	Source
49	Cranberry Tunnel - Commuter Service only from Jamaica via Fulton Line	<ul style="list-style-type: none"> • Two seat airport service to LM from JFK on existing AirTrain right of way via Jamaica Station • One seat commuter service to LM from Jamaica Station • Airport passengers transfer to new commuter service at Jamaica Station • Commuter service continues west from Jamaica Station via converted LIRR Atlantic Branch with stops at East New York, Nostrand Av and a new station below Atlantic Terminal • Service continues to a new connection with the Fulton St Line A, followed by an additional stop at the existing Jay St/Borough Hall Station • Service proceeds through the Cranberry Tunnel and in LM connects to the 8th Ave Line • Commuter service terminates at the Fulton-Broadway/Nassau Station • Due to Cranberry Tunnel capacity constraints (currently operating 27 TPH during peak), C trains are diverted to the Rutgers St Tunnel F service 	Rail	Commuter Only	Cranberry Tunnel	Long	LMDC Feasibility Study
50	Cranberry Tunnel - Airport Service via Howard Beach only - 8th Ave Line Connection	<ul style="list-style-type: none"> • One seat airport service to LM from JFK on existing AirTrain right of way via Howard Beach Station • No new commuter service to LM from Jamaica Station • Airport service continues west from Howard Beach Station via a new direct connection with the Fulton St Line A in the vicinity of the Euclid Av Station, followed by a stop at the existing Jay St/Borough Hall Station • Service proceeds through the Cranberry Tunnel and in LM connects to the 8th Ave Line, where it makes 8th Ave Line station stops beginning with Fulton-Broadway/Nassau • Due to Cranberry Tunnel capacity constraints (currently operating 27 TPH during peak), C trains are diverted to the Rutgers St Tunnel F service 	Rail-Hybrid	Airport Only	Cranberry Tunnel	Long	LMDC Feasibility Study

LONG LIST OF ALTERNATIVES REPORT*At a Glance*

Alt. #	Name	Description	Mode	Market Served	ERX	Timeframe	Source
51	Cranberry Tunnel - Airport Service only via Jamaica and Fulton Line	<ul style="list-style-type: none"> • One seat airport service to LM from JFK on existing AirTrain right of way via Jamaica Station • No new commuter service to LM from Jamaica Station • Airport service continues west from Jamaica Station via a new direct connection with the Fulton St Line A in the vicinity of the Ozone Park/Lefferts Blvd Station, followed by a stop at the existing Jay St/Borough Hall Station • Airport service proceeds through the Cranberry Tunnel and in LM connects to the 8th Ave Line • The service terminates in the vicinity of the Fulton Transit Ctr and WTC • Due to Cranberry Tunnel capacity constraints (currently operating 27 TPH during peak), C trains are diverted to the Rutgers St Tunnel F service 	Rail-Hybrid	Airport Only	Cranberry Tunnel	Long	LMDC Feasibility Study
52	Cranberry Tunnel - Airport Service only via Howard Beach -8th Ave Line to 6th Ave Line Connection	<ul style="list-style-type: none"> • One seat airport service to LM from JFK on existing AirTrain right of way via Howard Beach Station • No new commuter service to LM from Jamaica Station • Airport service continues west from Howard Beach Station via a new direct connection with the Fulton St Line A in the vicinity of Euclid Ave, followed by a stop at the existing Jay St/Borough Hall Station • Service proceeds through the Cranberry Tunnel and in LM connects to the 8th Av Line A/C/E, where it makes 8th Ave Line station stops beginning with Fulton-Broadway/Nassau • At W4th St the service shifts to the 6th Ave Line B/D/F/V, terminating at 57th St • Due to Cranberry Tunnel capacity constraints (currently operating 27 TPH during peak), C trains are diverted to the Rutgers St Tunnel F service 	Rail-Hybrid	Airport Only	Cranberry Tunnel	Long	LMDC Feasibility Study

LONG LIST OF ALTERNATIVES REPORT**At a Glance**

Alt. #	Name	Description	Mode	Market Served	ERX	Timeframe	Source
53	Cranberry Tunnel - Airport Service only via Howard Beach to PA 42nd St. Bus Terminal	<ul style="list-style-type: none"> • One seat airport service to LM from JFK on existing AirTrain right of way via Howard Beach Station • No new commuter service to LM from Jamaica Station • Airport service continues west from Howard Beach Station via a new direct connection with the Fulton St Line A in the vicinity of the Euclid Av Station, followed by a stop at the existing Jay St/Borough Hall Station • Service proceeds through the Cranberry Tunnel and in LM connects to the 8th Ave Line A/C/E, where it makes 8th Ave Line station stops beginning with Fulton-Broadway/Nassau and terminates at the Port Authority Bus Terminal • Due to Cranberry Tunnel capacity constraints (currently operating 27 TPH during peak), C trains are diverted to the Rutgers St Tunnel F service 	Rail-Hybrid	Airport Only	Cranberry Tunnel	Long	LMDC Feasibility Study
54	Montague and Cranberry Tunnels via Jamaica	<ul style="list-style-type: none"> • One seat airport service to LM from JFK on existing AirTrain right of way via Jamaica Station • One seat commuter service to LM from Jamaica Station • Airport and commuter services continue west from Jamaica Station via converted LIRR Atlantic Branch with commuter stops at East New York and Nostrand Ave and a new station stop for both services below Atlantic Terminal • Service continues to two new "branch" connections • The first is an airport branch connection to the Fulton St Line A with an additional stop at the existing Jay St/Borough Hall Station • The airport branch proceeds through the Cranberry Tunnel and in LM connects to the 8th Ave Line and terminates at a new station in the vicinity of Fulton Transit Ctr and WTC • The second branch is a commuter connection to the 4th Ave/Nassau St Line M • Commuter service replaces M service west of the connection, making stops at DeKalb Ave, Lawrence St and Court St stations • This branch continues through the Montague Tunnel • In LM commuter service continues on the Nassau St line and terminates at 	Rail-Hybrid	Both Airport and Commuter	Cranberry and Montague Tunnels	Long	LMDC Feasibility Study

LONG LIST OF ALTERNATIVES REPORT**At a Glance**

Alt. #	Name	Description	Mode	Market Served	ERX	Timeframe	Source
55	Express Z Service from Jamaica	<ul style="list-style-type: none"> • Two seat airport service to LM from JFK on existing AirTrain right of way via Jamaica Station • One seat commuter service to LM from Jamaica Station • Both airport passengers and commuters transfer at Jamaica Station to Z service • The Z from Jamaica becomes a super express service, making skip stops and terminating at the existing Broad St Station 	Rail	Commuter Only	Williamsburg Bridge	Short	LMDC Feasibility Study
56	Joralemon Tunnel via Jamaica	<ul style="list-style-type: none"> • One seat airport service to LM from JFK on existing AirTrain right of way via Jamaica Station • One seat commuter service to LM from Jamaica Station • Airport and commuter services continue west from Jamaica Station via converted LIRR Atlantic Branch with commuter stops at East New York and Nostrand Ave and a new station stop for both services below Atlantic Terminal • Service continues to a new connection with the Borough Hall Line 4/5, with a commuter stop at the existing Borough Hall Station • Service proceeds through the Joralemon Tunnel and in LM connects to the Lexington Ave Line • Commuter service terminates at the Fulton-Broadway/Nassau Station, while airport service terminates nearby, in the vicinity of the Fulton Transit Ctr and WTC 	Rail-Hybrid	Both Airport and Commuter	Joralemon Tunnel	Long	LMDC Feasibility Study

LONG LIST OF ALTERNATIVES REPORT**At a Glance**

Alt. #	Name	Description	Mode	Market Served	ERX	Timeframe	Source
57	Rutgers Tunnel via Jamaica	<ul style="list-style-type: none"> • One seat airport service to LM from JFK on existing AirTrain right of way via Jamaica Station • One seat commuter service to LM from Jamaica Station • Airport and commuter services continue west from Jamaica Station via converted LIRR Atlantic Branch with commuter stops at East New York and Nostrand Ave and a new station stop for both services below Atlantic Terminal • Service continues to a new connection to the Culver Line F, with a commuter stop at the existing Jay St/Borough Hall Station • Service proceeds through the Rutgers Tunnel • In LM a new tunnel is constructed to connect to the Fulton-Broadway/Nassau Station, where commuter service terminates • Airport service terminates nearby, in the vicinity of the Fulton Transit Ctr and WTC 	Rail-Hybrid	Both Airport and Commuter	Rutgers Street Tunnel	Long	LMDC Feasibility Study
58	Rutgers Tunnel - Commuter Service only from Jamaica	<ul style="list-style-type: none"> • Two seat airport service to LM from JFK on existing AirTrain right of way via Jamaica Station • One seat commuter service to LM from Jamaica Station • Airport passengers transfer to new commuter service at Jamaica Station • Commuter service continues west from Jamaica Station via converted LIRR Atlantic Branch with commuter stops at East New York and Nostrand Ave and a new station stop for both services below Atlantic Terminal • Service continues to a new connection to the Culver Line F, with a stop at the existing Jay St/Borough Hall Station • Service proceeds through the Rutgers Tunnel • In LM a new tunnel is constructed to connect to the Fulton-Broadway/Nassau Station, where commuter service terminates 	Rail	Commuter Only	Rutgers Street Tunnel	Long	LMDC Feasibility Study

LONG LIST OF ALTERNATIVES REPORT*At a Glance*

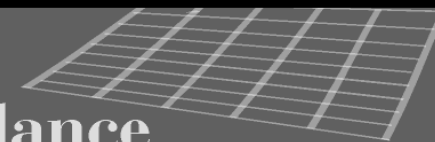
Alt. #	Name	Description	Mode	Market Served	ERX	Timeframe	Source
59	Cranberry Tunnel via Jamaica and Fulton St Line	<ul style="list-style-type: none"> • One seat airport service to LM from JFK on existing AirTrain right of way via Jamaica Station • One seat commuter service to LM from Jamaica Station • Airport and commuter services continue west from Jamaica Station via converted LIRR Atlantic Branch with commuter stops at East New York and Nostrand Ave and a new station stop for both services below Atlantic Terminal • Service continues to a new connection with the Fulton St Line A with an additional commuter stop at the existing Jay St/Borough Hall Station • Service proceeds through the Cranberry Tunnel and in LM connects to the 8th Ave Line • Commuter service terminates at the Fulton-Broadway/Nassau Station, while airport service terminates nearby, in the vicinity of the Fulton Transit Ctr and WTC • Due to Cranberry Tunnel capacity constraints (currently operating 27 TPH during peak), C trains are diverted to the Rutgers St Tunnel F service 	Rail-Hybrid	Both Airport and Commuter	Cranberry Tunnel	Long	LMDC Feasibility Study
60	Clark Tunnel via Jamaica and 7th Ave Line	<ul style="list-style-type: none"> • One seat airport service to LM from JFK on existing AirTrain right of way via Jamaica Station • One seat commuter service to LM from Jamaica Station • Airport and commuter services continue west from Jamaica Station via converted LIRR Atlantic Branch with commuter stops at East New York and Nostrand Ave and a new station stop for both services below Atlantic Terminal • Service continues to a new connection to the 7th Av 2/3, with an additional commuter stop at the existing Nevins St Station • Service proceeds through the Clark Tunnel • In LM service continues on the 7th Ave Line • Commuter service terminates at the Fulton-Broadway/Nassau Station, while airport service terminates nearby, in the vicinity of the Fulton Transit Ctr and WTC 	Rail-Hybrid	Both Airport and Commuter	Clark Street Tunnel	Long	LMDC Feasibility Study

LONG LIST OF ALTERNATIVES REPORT*At a Glance*

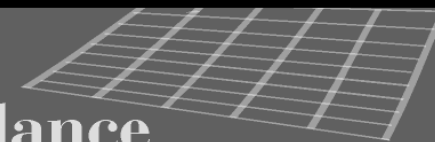
Alt. #	Name	Description	Mode	Market Served	ERX	Timeframe	Source
61	Manhattan Bridge via Jamaica	<ul style="list-style-type: none"> • One seat airport service to LM from JFK on existing AirTrain right of way via Jamaica Station • One seat commuter service to LM from Jamaica Station • Airport and commuter services continue west from Jamaica Station via converted LIRR Atlantic Branch with commuter stops at East New York and Nostrand Ave and a new station stop for both services below Atlantic Terminal • Service continues to a new connection to the Manhattan Bridge lines B/D/N/Q with a commuter stop at the existing DeKalb Ave Station • Service proceeds over the Manhattan Bridge • A new alignment is constructed in LM to allow service to terminate in the vicinity of the Fulton Transit Ctr and WTC 	Rail-Hybrid	Both Airport and Commuter	Manhattan Bridge	Long	LMDC Feasibility Study
62	Williamsburg Bridge - Connection to Z Service near East New York	<ul style="list-style-type: none"> • One seat airport service to LM from JFK on existing AirTrain right of way via Jamaica Station • One seat commuter service to LM from Jamaica Station • Airport and commuter services continue west from Jamaica Station via converted LIRR Atlantic Branch with commuter stop at East New York, where a connection is made to the Jamaica Express Line Z • The service makes skips stops, crosses the Williamsburg Bridge and terminates in LM at Broad St 	Rail	Both Airport and Commuter	Williamsburg Bridge	Long	LMDC Feasibility Study
63	Ferry Airport Service Only from JFK to LM	<ul style="list-style-type: none"> • Two seat airport service to LM from JFK • No new commuter service to LM from Jamaica Station • Airport passengers board a people mover or bus service from the airport terminals to a ferry dock • High speed ferry service operates from JFK airport to Pier 11 and World Financial Center 	Ferry	Airport Only	Ferry	Short	LMDC Feasibility Study

LONG LIST OF ALTERNATIVES REPORT**At a Glance**

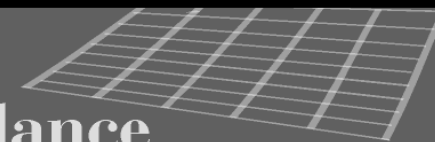
Alt. #	Name	Description	Mode	Market Served	ERX	Timeframe	Source
64	Cranberry Tunnel - Super A Express Service	<ul style="list-style-type: none"> • Two seat airport service to LM from JFK on existing AirTrain right of way via Howard Beach Station • No new commuter service from Jamaica • AirTrain passengers continue present procedure and make connection with A train at Howard Beach; however, A service from Howard Beach becomes super express, making stops at Jay St/Borough Hall, Broadway/Nassau and terminating at Chambers St in LM 	Rail	Airport Only	Cranberry Tunnel	Short	LMDC Feasibility Study
65	New Tunnel via Jamaica - Second Ave Subway Connection	<ul style="list-style-type: none"> • One seat airport service to LM from JFK on existing AirTrain right of way via Jamaica Station • One seat commuter service to LM from Jamaica Station • Airport and commuter services continue west from Jamaica Station via converted LIRR Atlantic Branch with commuter stops at East New York and Nostrand Ave and a new station stop for both services below Atlantic Terminal • Service continues through a new East River tunnel and connects to the Second Ave Subway at Water St • Service continues north, stopping at 34th St and terminating at Grand Central Terminal 	Rail-Hybrid	Both Airport and Commuter	New Tunnel	Long	LMDC Feasibility Study
66	Existing Tunnel via Jamaica	<ul style="list-style-type: none"> • Airport service to Jamaica via the existing AirTrain right-of-way, connecting to the LIRR's Atlantic Branch • The service then proceeds to Atlantic Ave Terminal where it continues on through a new LIRR connection to LM 	Rail-Hybrid	Both Airport and Commuter	TBD	Long	JFK AirTrain Study
67	New Tunnel - Second Avenue Subway via BMT Line Connection at 63rd St	<ul style="list-style-type: none"> • Second Ave Subway from Grand Concourse at 161st St turns west at 63rd St to the Broadway BMT and proceeds to LM • The second phase extends service south through a new East River tunnel to Atlantic Terminal 	Rail	Commuter	New Tunnel	Long Term	Lower Manhattan Access Study
68	LIRR-IRT Connection at Atlantic Terminal	<ul style="list-style-type: none"> • Tie the LIRR with the IRT 2/3/4/5 at Atlantic Terminal 	Rail	Commuter	Joralemon or Clark Tunnel	Long Term	Lower Manhattan Access Study

LONG LIST OF ALTERNATIVES REPORT*At a Glance*

Alt. #	Name	Description	Mode	Market Served	ERX	Timeframe	Source
69	Convert LIRR Atlantic Branch to Rapid Transit	<ul style="list-style-type: none"> • Convert LIRR Atlantic Branch to NYCT service between Brooklyn and Jamaica, providing direct rapid transit service from Jamaica • Service continues from Brooklyn to LM terminal through to Midtown 	Rail	Commuter	Existing	Long Term	Lower Manhattan Access Study
70	New Tunnel via Jamaica - 8th Ave Line Connection	<ul style="list-style-type: none"> • One seat airport service to LM from JFK on existing AirTrain right of way via Jamaica Station • One seat commuter service to LM from Jamaica Station • Airport and commuter services continue west from Jamaica Station via converted LIRR Atlantic Branch • A new station stop serves downtown Brooklyn in the vicinity of Tillary St and Adams St • Service proceeds under Pineapple St to a new East River tunnel and enters LM under Maiden La • Airport service terminates at a new station in vicinity of Legion Memorial Square • Commuter service connects to the 8th Ave Line E at the WTC • A transit level fare should be examined for any new service to measure the ridership potential 	Rail	Both Airport and Commuter	New Tunnel	Long	RPA

LONG LIST OF ALTERNATIVES REPORT*At a Glance*

Alt. #	Name	Description	Mode	Market Served	ERX	Timeframe	Source
71	New Tunnel via Jamaica - Second Ave Subway Connection	<ul style="list-style-type: none"> • One seat airport service to LM from JFK on existing AirTrain right of way via Jamaica Station • One seat commuter service to LM from Jamaica Station • Airport and commuter services continue west from Jamaica Station via converted LIRR Atlantic Branch • A new station stop serves downtown Brooklyn in the vicinity of Adams St and Fulton St • Service turns under Pierpont St to a new East River tunnel and enters LM in the area of Coenties Slip • Airport service terminates at a new station in vicinity of Fulton Transit Center and WTC • Commuter service connects to Second Ave Subway, with a stop at Hanover Square • If the above alignment is not possible, an alternate alignment would follow Atlantic Ave in Brooklyn and enter LM at the Battery • A NYCT level fare should be examined for any new service to measure the ridership potential 	Rail-Hybrid	Both Airport and Commuter	New Tunnel	Long	RPA

LONG LIST OF ALTERNATIVES REPORT**At a Glance**

Alt. #	Name	Description	Mode	Market Served	ERX	Timeframe	Source
72	New Tunnel via Jamaica - Second Ave Subway and 8th Ave Line Connection	<ul style="list-style-type: none"> • One seat airport service to LM from JFK on existing AirTrain right of way via Jamaica Station • One seat commuter service to LM from Jamaica Station • Airport and commuter services continue west from Jamaica Station via converted LIRR Atlantic Branch • A new station stop serves downtown Brooklyn in the vicinity of Adams St and Fulton St • Service turns under Pierpont St to a new East River tunnel and enters LM in the area of Coenties Slip • In LM the airport service terminates at a new station in vicinity of Fulton Transit Center and WTC • Commuter service connects to Second Ave Subway, with a stop at Hanover Square and also connects to the 8th Ave Line E at the WTC station • If the above alignment is not possible, an alternate alignment would follow Atlantic Ave in Brooklyn and enter LM at the Battery • A NYCT level fare should be examined for any new service to measure the ridership potential 	Rail-Hybrid	Both Airport and Commuter	New Tunnel	Long	RPA
73	New Tunnel via Jamaica - Split to Second Ave Subway and 8th Ave Line at the Battery	<ul style="list-style-type: none"> • One seat airport service to LM from JFK on existing AirTrain right of way via Jamaica Station • One seat commuter service to LM from Jamaica Station • Airport and commuter services continue west from Jamaica Station via converted LIRR Atlantic Branch but do not serve Downtown Brooklyn • Service continues through a new tunnel and splits near the Battery to connect to both the SAS and the 8th Ave Line E • A transit level fare should be examined for any new service to measure the ridership potential 	Rail	Both Airport and Commuter	New Tunnel	Long	RPA

LONG LIST OF ALTERNATIVES REPORT*At a Glance*

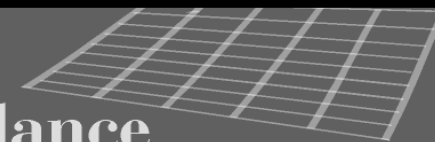
Alt. #	Name	Description	Mode	Market Served	ERX	Timeframe	Source
74	New Tunnel via Jamaica - Potential 8th Ave Line Connection	<ul style="list-style-type: none"> • One seat airport service to LM from JFK on existing AirTrain right of way via Jamaica Station • One seat commuter service to LM from Jamaica Station • Airport and commuter services continue west from Jamaica Station via converted LIRR Atlantic Branch with commuter stops at East New York and Nostrand Ave and a new station stop for both services below Atlantic Terminal • Service continues through a new East River tunnel to a new station in the vicinity of the existing WTC station, with a possible connection to the 8th Ave Line E 	Rail-Hybrid	Both Airport and Commuter	New Tunnel	Long	Consultant Team
75	New Tunnel via Jamaica - Airport and Long Island Thru Service	<ul style="list-style-type: none"> • One seat airport service to LM from JFK on existing AirTrain right-of-way via Jamaica Station • One seat commuter service to LM from Long Island on LIRR service, with a Jamaica Station stop • Both services continue west from Jamaica Station via LIRR Atlantic Branch with commuter stops at East New York, Nostrand Ave and a new station stop for both services below Atlantic Terminal • Both services continue through a new East River tunnel and terminate in a new LM station in vicinity of Fulton Transit Center and WTC 	Rail	Both Airport and Commuter	New Tunnel	Long	Consultant Team
76	New Tunnel - PATH Extension to Jamaica Station	<ul style="list-style-type: none"> • Two seat airport service to LM from JFK on existing AirTrain right of way via Jamaica Station, requiring transfer from AirTrain at Jamaica Station to new commuter service • One seat commuter service to LM from Jamaica Station • Commuter service continues west from Jamaica Station via converted LIRR Atlantic Branch with stops at East New York and Nostrand Ave and a new station stop below Atlantic Terminal • Service continues to a new East River tunnel, where it connects to the existing PATH Line in the vicinity of the WTC and terminates at the WTC PATH station 	Rail	Commuter	New Tunnel	Long	Consultant Team

LONG LIST OF ALTERNATIVES REPORT**At a Glance**

Alt. #	Name	Description	Mode	Market Served	ERX	Timeframe	Source
77	High Speed Atlantic Branch Shuttle	<ul style="list-style-type: none"> • Convert Atlantic Branch to rapid transit service with a separate fare and run a high-speed shuttle between Jamaica and Atlantic Terminal 	Rail	Commuter	N/A	Short	Stanley Harwich, Community Board #9
78	New Subway K Train Service	<ul style="list-style-type: none"> • A new K subway line beginning in Rockaway Park, Queens, replaces the Rockaway Park Shuttle S line and operates every 15 minutes • The K Line would increase service from Howard Beach station to Manhattan, via the Old Rockaway Branch, connecting to the Queens Blvd Line for service to Manhattan with connections to the Lexington Ave Line and Second Ave Subway 	Rail	Commuter (Queens) and Airport	59th St Tunnel	Long	Michele Silverman, Queens Transportation Initiative Group
79	Joralemon Tunnel LIRR service	<ul style="list-style-type: none"> • LIRR service is extended from Atlantic Terminal to LM via the Joralemon Tunnel and terminates at Fulton St • 4 Line trains become a local shuttle in Brooklyn and switch at a siding at Franklin Av • In Manhattan 4 service terminates at Brooklyn Bridge • The tunnel between the Fulton-Nassau/Broadway St Station and Brooklyn Bridge Station would be used for cleaning train service only 	Rail	Commuter	Joralemon	Long	Henry Mann
80	LIRR Through Service to Hicksville/Babylon	<ul style="list-style-type: none"> • Direct LIRR service through Jamaica, with two downtown expresses: One from LM to Hicksville, alternating between Huntington and Ronkonkoma terminals; the other over the Babylon line to complement a shuttle, or at least not precluding such an operation • Under this LIRR option, a local service could serve the Queens stations on the Far Rockaway branch between Rosedale and Jamaica and could make the local stops along Atlantic Ave, thus improving service to SE Queens and Brooklyn 	Rail	Commuter	New Tunnel	Long	Robert A. Olmsted
81	Extend Archer Ave Subway	<ul style="list-style-type: none"> • Improve travel between eastern and southeastern Queens and Manhattan by extending the Archer Ave subway to SE Queens over the LIRR Far Rockaway/Atlantic Branch 	Rail	Commuter	N/A	Short	Robert A. Olmsted

LONG LIST OF ALTERNATIVES REPORT*At a Glance*

Alt. #	Name	Description	Mode	Market Served	ERX	Timeframe	Source
82	New Tunnel Connection to Both Second Ave Subway and 8th Ave Line (2 options)	<ul style="list-style-type: none"> • A new tunnel connection to SAS and 8th Ave lines provides access to east and west sides of Manhattan, realizing the full capacity of the new tunnel • The "high-level" option connects the new tunnel to the 8th Ave line, using the existing WTC E station • The "low-level option" connects the new tunnel to the SAS, using the Hanover Square Station, and connects to the 8th Ave Line • The connection to the 8th Ave Line would have a new station deep beneath Church St and, using the Worth St bellmouth, would connect to the 8th Ave line just south of Canal St 	Rail-Hybrid	Both Airport and Commuter	New Tunnel	Long	Robert A. Olmsted
83	Reactivate LIRR Old Rockaway Branch to LM	<ul style="list-style-type: none"> • Extend service from Howard Beach/JFK, along existing right-of-way and connect to Atlantic Branch, Atlantic Terminal and LM (crossing not specified) • Reactivate station at Ozone Park 	Rail	Airport	TBD	Long	Allan Smith
84	Reactivate LIRR Old Rockaway Branch to Midtown	<ul style="list-style-type: none"> • Extend service from Howard Beach/JFK, along existing right-of-way and connect to LIRR Main Line for service to Midtown • Reactivate stations at Ozone Park, Woodhaven, Brooklyn Manor, Parkside (Metropolitan Av), and Rego Park 	Rail	Airport	Existing LIRR	Long	Allan Smith
85	J Line Modifications	<ul style="list-style-type: none"> • Express J Line service from Broadway Junction in East New York to Myrtle Ave, then express to Essex St in Manhattan • A new local line would start at either Atlantic Ave on the L line or at Broadway Junction to pick up the skipped local stops before going over the Williamsburg Bridge to Manhattan 	Rail	Commuter	Williamsburg	Short	Allan Smith
86	C Line Modifications	<ul style="list-style-type: none"> • Extend C line from Euclid Ave to Lefferts Blvd • A trains that previously served this segment would serve the Rockaways after Rockaway Blvd 	Rail	Queens Commuter and Airport	Cranberry	Short	Allan Smith
87	Intermodal Connection to Second Ave Subway and E line	<ul style="list-style-type: none"> • Connect to Second Ave Subway and 8th Ave E line, providing an intermodal, interconnected link 	Rail	TBD	New Tunnel	Long	Rick Mueller, representing C. Virginia Fields

LONG LIST OF ALTERNATIVES REPORT**At a Glance**

Alt. #	Name	Description	Mode	Market Served	ERX	Timeframe	Source
88	LIRR One Seat Ride - Second Ave Subway and PATH Connections	<ul style="list-style-type: none"> One-seat ride from Long Island to LM with more stops in Brooklyn and along Atlantic Ave The terminal station should connect to the Second Ave Subway and PATH at WTC 	Rail	Commuter	New Tunnel	Long	Patrick Contolanzi, Kew Gardens resident
89	Old Rockaway Branch Express and Local Service	<ul style="list-style-type: none"> Reactivate Old Rockaway Branch with express and local service Redirect A train service to Howard Beach Station, extend C service to Lefferts Blvd and run E service to the current C train terminus 	Rail	Queens Commuter and Airport	Cranberry Tunnel	Long	Barry Adler
90	Four Track New Tunnel	<ul style="list-style-type: none"> The new tunnel should have four tracks: two for subway, one for LIRR, and one for AirTrain 	Rail-Hybrid	Both Airport and Commuter	New Tunnel	Long	Maurice Wells
91	Improve A Train Service	<ul style="list-style-type: none"> Increase A train frequency and upgrade cars to have a better appeal to air travelers 	Rail	Airport Only	Cranberry Tunnel	Short	Ellyn Shannon, MTA PCAC
92	AirTrain-LIRR Hybrid Vehicles	<ul style="list-style-type: none"> A cost effective method of connecting JFK Airport with Manhattan would utilize a hybrid vehicle that runs directly from the AirTrain tracks onto the LIRR Main Line 	Rail-Hybrid	Both Airport and Commuter	LIRR East River Tunnel	Long	Ellyn Shannon, MTA PCAC
93	New Tunnel with Airport Connection via Howard Beach, and connection to Second Ave Subway and E line	<ul style="list-style-type: none"> Modify AirTrain so it can take real railroad cars, run them over the A train tracks, connect to the LIRR and build a new tunnel into LM The new tunnel should connect to Second Ave Subway and E line 	Rail-Hybrid	Both Airport and Commuter	New Tunnel	Long	Eugene Falik

LONG LIST OF ALTERNATIVES REPORT**At a Glance**

Alt. #	Name	Description	Mode	Market Served	ERX	Timeframe	Source
94	Conversion of Atlantic Branch to IRT	<ul style="list-style-type: none"> • Change LIRR Atlantic Branch to IRT 	Rail	Commuter	N/A	Long	Torin Reid
95	Rockaway Connection to Atlantic Branch and Main Line	<ul style="list-style-type: none"> • Improve transit in southern Queens by connecting the Old Rockaway Branch to the Atlantic line, and sometime in the future, through to the LIRR Main Line 	Rail	Queens Commuter and Airport	LIRR East River Tunnel	Long	Norman Silverman
96	Van Wyck Blvd Line	<ul style="list-style-type: none"> • Construction of a 2-track subway along Van Wyck Blvd • From Hillside Ave to JFK Airport, Queens • Assumes an F Line Connection at Van Wyck Blvd 	Rail	Queens Commuter and Airport	N/A	Long	Lewis Hitch
97	New Tunnel - MetroTech Stop and Utica Ave Corridor service	<ul style="list-style-type: none"> • New tunnel to LM with a second stop at MetroTech, direct airport connection from Brooklyn to JFK, connection to Second Ave Subway and E train • Excess capacity in tunnel could allow Second Ave Subway trains to serve the Utica Ave corridor in Brooklyn 	Rail	TBD	New Tunnel	Long	Marty Markowitz
98	Reduced airport fare	<ul style="list-style-type: none"> • Staged improvement plan with immediate benefits including a reduced one-way combination fare and senior citizen fares to JFK 	None	N/A	N/A	Short	Marty Markowitz
99	Second Station in Downtown Brooklyn	<ul style="list-style-type: none"> • Two stations are needed in Brooklyn • A second station should be added in the vicinity of MetroTech 	Rail	TBD	New Tunnel	Long	Ken Adams, Brooklyn Chamber of Commerce
100	Second Station in Downtown Brooklyn	<ul style="list-style-type: none"> • Two stations are needed in Brooklyn • A second station should be added in the vicinity of MetroTech 	Rail	TBD	New Tunnel	Long	Michael Burke, Downtown Brooklyn Council

LONG LIST OF ALTERNATIVES REPORT*At a Glance*

Alt. #	Name	Description	Mode	Market Served	ERX	Timeframe	Source
101	New Tunnel with Additional Downtown Brooklyn Stops at Hoyt-Schermerhorn	<ul style="list-style-type: none"> • New Tunnel to LM with three or four Brooklyn station stops, one at Hoyt-Schermerhorn, and connection to Second Ave Subway 	Rail	TBD	New Tunnel	Long	Carolyn Konheim
102	BRT from Southeastern Brooklyn and Queens	<ul style="list-style-type: none"> • The proposed new "LIRR Super Subway" should be served by a new Bus Rapid Transit network from auto-dependent southeastern Brooklyn and Queens 	BRT	Commuter	N/A	Short	Carolyn Konheim
103	Second Brooklyn Stop	<ul style="list-style-type: none"> • In addition to the Atlantic Ave station, a new station should be situated in the heart of Downtown Brooklyn, in the Metro Tech/Borough Hall area 	Rail	TBD	N/A	Long	Harvey Schultz, Muss Development Company
104	Montague Tunnel via Atlantic Branch and Old Rockaway Connection	<ul style="list-style-type: none"> • "A Diamond" Rockaway Park and Far Rockaway service via Old Rockaway Branch, Atlantic Branch, and Montague Street Tunnel (6 trains/hour) • H line from Jamaica to Canal Street via Atlantic Branch, Montague Tunnel and Nassau line (10 trains/hour) • Stops at reopened Woodhaven Junction, Proposed Ozone Park, proposed Woodhaven Blvd, East New York and Nostrand Ave stations 	Rail	Queens Commuter and Airport	Montague Tunnel	Long	Carl Perrera

LONG LIST OF ALTERNATIVES REPORT*At a Glance*

Alt. #	Name	Description	Mode	Market Served	ERX	Timeframe	Source
105	Montague Tunnel via Atlantic Branch and Old Rockaway Connection - LIRR to Woodhaven, Super "A Diamond" Express and H line to Aqueduct	<ul style="list-style-type: none"> • Same as Alt. 104 with H line starting at Aqueduct station and LIRR service to new station at Woodhaven Junction 	Rail	Queens Commuter and Airport	Montague Tunnel	Long	Carl Perrera
106	Montague Tunnel via Atlantic Branch and Old Rockaway Connection - Super "A Diamond" Express and E line to Jamaica	<ul style="list-style-type: none"> • "A Diamond" Rockaway Park and Far Rockaway rush hour service via Old Rockaway Branch, Atlantic Branch, and Montague Street Tunnel (6 trains/hour) • E line from Jamaica to Canal Street via Atlantic Branch, Montague Tunnel and Nassau line (10 trains/hour) • Stops at reopened Woodhaven Junction, proposed Ozone Park, proposed Woodhaven Blvd, East New York and Nostrand Ave stations 	Rail	Queens Commuter and Airport	Montague Tunnel	Long	Carl Perrera
107	C Local Extensions and Regular A Service via Fulton Line and Cranberry Tunnel	<ul style="list-style-type: none"> • C local Fulton St service operates between both the Aqueduct station in Ozone Park and 168th St in Manhattan and also between a proposed Linden Plaza subway terminal station at the Pitkin yards in East NY, Brooklyn and 168th St (12 trains/hour thru Cranberry) 	Rail	Queens Commuter	Cranberry Tunnel	Short	Carl Perrera

LONG LIST OF ALTERNATIVES REPORT**At a Glance**

Alt. #	Name	Description	Mode	Market Served	ERX	Timeframe	Source
108	Old Rockaway Connection Improvements	<ul style="list-style-type: none"> • Reopened/refurbished Woodhaven Jct. Station at 97th St and 102nd St along Atlantic Ave • Proposed passenger stairwells and underpass near 97th St at the west end of the Woodhaven Station • Proposed passageway along the north side of Atlantic Ave between 96th St and 97th St connecting Woodhaven Jct station to Woodhaven Blvd station • Proposed Woodhaven Blvd Station located between 92nd St and 96th St along Atlantic Avenue • Proposed passenger stairwells and underpass located near 96th St at the east end of the Woodhaven Blvd station, connecting westbound and eastbound platforms 	Rail	Queens Commuter	N/A	Short	Carl Perrera
109	Re-Open LIRR Rockaway Beach Line	<ul style="list-style-type: none"> • Utilization of the Old Rockaway Branch will help the transportation problem and enhance the quality of life for Rockaways citizens 	Rail	Queens Commuter and Airport	N/A	Short	Laura Feldman
110	Use Existing Tunnel under East River	<ul style="list-style-type: none"> • Using an existing tunnel is economical and has engineering advantages 	Rail	TBD	N/A	Long	Customer email
111	Super A Express Train	<ul style="list-style-type: none"> • Institute a super A express train between Rockaways, Howard Beach/JFK and Lower Manhattan 	Rail	Queens Commuter and Airport	Cranberry Tunnel	Short	Michele Silverman
112	Added Station in Downtown Brooklyn	<ul style="list-style-type: none"> • "Transportation and Economic Benefits of an Added Station in Downtown Brooklyn for the Lower Manhattan Rail Link" recommends locating a station in Downtown Brooklyn more centrally located to Brooklyn's commercial hub than the Atlantic Terminal area, possibly in the vicinity of Borough Hall and MetroTech • The report also presents RPA's proposed alignment options 	Rail	N/A	New Tunnel	Long	Downtown Brooklyn Council

LONG LIST OF ALTERNATIVES REPORT**At a Glance**

Alt. #	Name	Description	Mode	Market Served	ERX	Timeframe	Source
113	Reactivate Rockaway Branch and Connect to LIRR Main Line	<ul style="list-style-type: none"> Initial phase is to extend AirTrain to connect to A Line at Howard Beach, with connections to Old Rockaway Branch and the Atlantic Branch at Woodhaven Junction Second Phase to use Old Rockaway Branch to connect to LIRR Main Line at Rego Park Use of interoperable rolling stock (LIRR and AirTrain) with separate commuter and airport services Potential for station at Woodhaven Junction 	Rail	Airport, Commuter and Queens Commute	TBD	Short/Long	Philip Strong
114	Institute Super A Service and Reopen Old Rockaway Line	<ul style="list-style-type: none"> Institute a super A express train between Rockaways, Howard Beach/JFK and Lower Manhattan 24 hours per day Skip most Brooklyn stops and go straight into Howard Beach and the Rockaways Reopen Old Rockaway Branch for faster travel into Manhattan 	Rail	Airport and Queens Commuter	TBD	Short/Long	Jim Burke
115	Montague Tunnel Via "A" Diamond and H Train from Jamaica	<ul style="list-style-type: none"> Reroute Far Rockaway A service to LM via Old Rockaway Line and Atlantic Branch via Montague Tunnel and Broadway Line (3 TPH) Include Manhattan direct A service to Rockaway Park via Old Rockaway Branch and Atlantic Branch via Montague Tunnel (3 TPH) and eliminate S Service in Rockaway AirTrain uses new track connection at Aqueduct Station for thru service to LM via Montague Tunnel (4 TPH) New Montague A service reconnects with Eighth Ave Line through new connection between Cortlandt St and WTC Station Lefferts Blvd A service and C service continue to proceed through Cranberry Tunnel New H Line from Jamaica to Canal Street Station via the Atlantic Branch, Montague Tunnel and Nassau Line (10 TPH) 	Rail	Airport and Queens Commuter	Montague	Long	Carl Perrera, RTC

LONG LIST OF ALTERNATIVES REPORT**At a Glance**

Alt. #	Name	Description	Mode	Market Served	ERX	Timeframe	Source
116	Montague Tunnel Via "A" Diamond and H Train from Aqueduct-LIRR connection at Woodhaven Jct	<ul style="list-style-type: none"> • Reroute Far Rockaway A service to LM via Old Rockaway Branch and Atlantic Branch via Montague Tunnel and Broadway Line (3 TPH) • Include Manhattan direct A service to Rockaway Park via Old Rockaway Branch and Atlantic Branch via Montague Tunnel (3 TPH) and eliminate S Service in Rockaway • AirTrain uses new track connection at Aqueduct Station for thru service to LM via Montague Tunnel (4 TPH) • New Montague A service reconnects with 8th Ave Line through new connection between Cortlandt St and WTC Station • Lefferts Blvd A service and C service continue to proceed through Cranberry Tunnel • New H Line from Aqueduct Station to Canal Street Station via the Atlantic Branch, Montague Tunnel and Nassau Line (10 TPH) • LIRR service terminates at new Woodhaven Junction Station with walking transfer to H and A Lines to Atlantic Branch and LM 	Rail	Airport and Queens Commuter	Montague	Long	Carl Perrera, RTC
117	Montague Tunnel Via "A" Diamond and E Train from Jamaica	<ul style="list-style-type: none"> • Reroute Far Rockaway A service to LM via Old Rockaway Branch and Atlantic Branch via Montague Tunnel and Broadway Line (3 TPH) • Include Manhattan direct A service to Rockaway Park via Old Rockaway Branch and Atlantic Branch via Montague Tunnel (3 TPH) and eliminate S Service in Rockaway • AirTrain uses new track connection at Aqueduct Station for thru service to LM via Montague Tunnel (4 TPH) • New Montague A service reconnects with 8th Ave Line through new connection between Cortlandt St and WTC Station • Lefferts Blvd A service and C service continue to proceed through Cranberry Tunnel • Reroute E train to proceed from Jamaica to Atlantic Branch, Montague Tunnel and Broadway Line to LM (10 TPH) 	Rail	Airport and Queens Commuter	Montague	Long	Carl Perrera, RTC

LONG LIST OF ALTERNATIVES REPORT**At a Glance**

Alt. #	Name	Description	Mode	Market Served	ERX	Timeframe	Source
118	Montague Tunnel Via "A" Diamond and H Train from Jamaica-E Service on Fulton Line	<ul style="list-style-type: none"> • Reroute Far Rockaway A service to LM via Old Rockaway Branch and Atlantic Branch via Montague Tunnel and Broadway Line (5 TPH) • Include Manhattan direct A service to Rockaway Park via Old Rockaway Branch and Atlantic Branch via Montague Tunnel (5 TPH) and eliminate S Service in Rockaway • AirTrain uses new track connection at Aqueduct Station for thru service to LM via Montague Tunnel (4 TPH) • New Montague A service reconnects with 8th Ave Line through new connection between Cortlandt St and WTC Station • Lefferts Blvd Fulton St A service thru Cranberry Tunnel is replaced by E service and C service continues to proceed through Cranberry Tunnel • New H Line from Jamaica to Canal Street Station via the Atlantic Branch, Montague Tunnel and Nassau Line (10 TPH) 	Rail	Airport and Queens Commuter	Montague	Long	Carl Perrera, RTC
119	Short Term LIRR Utilization Improvements and Ferry	<ul style="list-style-type: none"> • Develop waterborne link between JFK, Downtown Brooklyn and LM • Increase frequency of LIRR service between Jamaica and Atlantic Terminal • Plan LM-JFK rail link with other LIRR improvements to enhance access between Long Island, Jamaica, Downtown Brooklyn and LM 	Ferry/Rail	Both Airport and Commuter	Ferry	Short	Marty Markowitz
120	New Tunnel Connection to Both Second Ave Subway (South End) and 8th Ave Line	<ul style="list-style-type: none"> • Tracks from East River turn into Trinity Place to a deep station under Church St • Connect to 8th Ave Line north of new station near Franklin St, south of Worth St bellmouth • Connect to south end of Second Ave Subway, as shown in LMDC report • Brooklyn trains alternate between Second Ave Subway and 8th Ave Line in "split service" 	Rail	Both Airport and Commuter	New Tunnel	Long	Robert A. Olmsted
121	New Tunnel Connection to Both Second Ave Subway at Hanover Square and 8th Ave Line	<ul style="list-style-type: none"> • Tracks from East River turn into Water St and pass through a redesigned, lower level Hanover Sq Station • Service turns west under Liberty St to a deep station in vicinity of WTC • Connection to 8th Ave Line is made at Worth St bellmouth • Benefit is two LM stations on a single line 	Rail	Both Airport and Commuter	New Tunnel	Long	Robert A. Olmsted

LONG LIST OF ALTERNATIVES REPORT**At a Glance**

Alt. #	Name	Description	Mode	Market Served	ERX	Timeframe	Source
122	Investigate Shared Platforms	<ul style="list-style-type: none"> Evaluate ways to accommodate JFK trains at existing subway stations, including proof of payment 	Rail	N/A	N/A	Long	Robert A. Olmsted
123	New Tunnel to Court Street (Museum) IND Station	<ul style="list-style-type: none"> Connect the new East River tunnel to the IND Court St Station (Museum) Take advantage of underutilized tracks A1 and A2 Lower profile of Museum Station and use Hoyt St Station as downtown Brooklyn stop 	Rail	Both Airport and Commuter	New Tunnel	Long	Robert A. Olmsted
124	Operate Atlantic Branch as a NYCT Shuttle	<ul style="list-style-type: none"> If funding for the LM project is not forthcoming, operate Atlantic Branch as a NYCT Shuttle Free transfer between subway and LIRR Zone 1 ticket holders Increase frequency of trains, especially in off-peak 	Rail	Commuter	N/A	Short	Robert A. Olmsted
125	Fifth Track at Atlantic Terminal	<ul style="list-style-type: none"> Construct fifth track to allow IRT 5 trains to terminate at Atlantic Terminal IRT 5 trains would be available to return to Manhattan at frequency of every 8 to 10 minutes 	Rail	Commuter	Joralemon	Long	Robert A. Olmsted
126	JFK A Service to Chambers St	<ul style="list-style-type: none"> Run airport service from Howard Beach or JFK to Chambers St Resignal Cranberry Tunnel, preferably with CBTC to allow for three to four TPH 	Rail	Airport	Cranberry	Short-Long	Robert A. Olmsted
127	Montague Tunnel and Manhattan Bridge via Nassau St Loop	<ul style="list-style-type: none"> Marry Atlantic Terminal with W train service rather than M train service JFK trains follow a one-way clockwise loop via Nassau St with stops at Broad St, Fulton St and Chambers Return to Brooklyn via Manhattan Bridge, sharing track with the Q and N 	Rail	Both Airport and Commuter	Montague Tunnel and Manhattan Bridge	Long	Robert A. Olmsted
128	Second Downtown Brooklyn Stop	<ul style="list-style-type: none"> Proceed with new tunnel alternative Include a second downtown Brooklyn stop that could allow for a convenient transfer to the A, C and F lines EIS should be consistent with the Downtown Brooklyn Development Plan 	Rail	TBD	New Tunnel	Long	Shirley McRae, CB 2

LONG LIST OF ALTERNATIVES REPORT**At a Glance**

Alt. #	Name	Description	Mode	Market Served	ERX	Timeframe	Source
129	Montague Tunnel and Cranberry Tunnel Super A Express Train with JFK Connection, K Service and E Extension	<ul style="list-style-type: none"> • Institute Super A express service in short term • Construct connection between Federal Circle and Aqueduct Station for JFK AirTrain one seat ride via Old Rockaway Branch • Replace A service from the Rockaways with new express "K" service using Old Rockaway Branch to LM • LM connection back to 8th Ave Line to replace some A service in Manhattan • Eliminate Rockaway Shuttle • Extend the E train from LM to Jamaica for AirTrain and LIRR connection 	Rail	Airport and Queens Commuter	Montague and Cranberry Tunnels	Long	Michele Silverman
130	New Tunnel via Court St BMT-E Extension	<ul style="list-style-type: none"> • Construct new tunnel connecting Court St (Museum Station) with bellmouth south of Whitehall St Station in LM • Extend E service to Brooklyn where it would replace R service • New services would allow four track operation, doubling Fulton Line capacity • Connect Atlantic Branch to Fulton Line for Jamaica to LM direct service • Reroute C service through new tunnel 	Rail	Both Airport and Commuter	New Tunnel	Long	Regional Rail Working Group
131	Super A Express Train	<ul style="list-style-type: none"> • Institute a Super A express train between Rockaway and Manhattan 	Rail	Airport and Queens Commuter	TBD	Short	Quintin Clough
132	Priority Commuter Service	<ul style="list-style-type: none"> • Extend LIRR commuter service between Eastern Long Island and LM to serve new stations in downtown Brooklyn and LM • Locate downtown Brooklyn station near MetroTech and Jay St/Borough Hall Station • Site LM station to be fully integrated with Second Ave Subway and Fulton Transit Center • Add stops on Atlantic Ave to attract Brooklyn and Queens commuters 	Rail	Commuter	New Tunnel	Long	Patrick Centolanzi, Kew Gardens resident

LONG LIST OF ALTERNATIVES REPORT**At a Glance**

Alt. #	Name	Description	Mode	Market Served	ERX	Timeframe	Source
133	Increase Ferry Service and Reinstitute Rockaway Connection	<ul style="list-style-type: none"> • Increase regional ferry services, including JFK-Rockaway-Brooklyn-LM and Hoboken-LM-Riis Park-JFK • Reinstitute Old Rockaway Branch to connect Midtown Manhattan to JFK 	Ferry/Rail	Both Airport and Commuter	Cranberry Tunnel and Ferry	Long	Joe Hartigan
134	Ferry Service from Long Island City to LM	<ul style="list-style-type: none"> • Ferry service from Long Island City (transfer from LIRR Montauk Branch) to two LM terminals (East and West sides) • Connecting rail service to Jamaica (LIRR Montauk Branch) 	Ferry	Commuter	Ferry	Short	Consultant Team
135	JFK Airport Conventional Express Bus Service via Manhattan Bridge	<ul style="list-style-type: none"> • Frequent conventional express bus service from JFK terminals to Fulton Transit Center using existing roadways • Airport bus route from JFK terminals or transfer at AirTrain JFK (Howard Beach) to North Conduit Ave to Atlantic Ave to Flatbush, over Manhattan Bridge to Bowery to Park Row • Service makes at least one downtown Brooklyn stop • Airport bus service could extend to the Rockaways 	Bus	Airport and Queens Commuter	Manhattan Bridge	Short	Consultant Team
136	JFK Airport Conventional Express Bus Service via Brooklyn Battery Tunnel	<ul style="list-style-type: none"> • Frequent conventional express bus service from JFK terminals to Fulton Transit Center using existing roadways • Bus service (via AirTrain connection from Lefferts Blvd or via B15 JFK terminal route) to Conduit Blvd to Linden Blvd corridor (follow Route 27) to Prospect Expressway to Gowanus Expressway to Brooklyn Battery Tunnel to Fulton Transit Center via Church St/Broadway • Airport bus service could extend to the Rockaways 	Bus	Airport and Queens Commuter	Battery Tunnel	Short	Consultant Team

LONG LIST OF ALTERNATIVES REPORT*At a Glance*

Alt. #	Name	Description	Mode	Market Served	ERX	Timeframe	Source
137	BRT via Existing Roadways and Manhattan Bridge	<ul style="list-style-type: none"> • Two routes would be operated: Jamaica-Park Row and JFK-Park Row, using modern, "clean-power" BRT vehicles. Services would make all station stops, some with expresses (stop only at Atlantic Terminal, between Queens and Manhattan) • Additional downtown Brooklyn stops possible • Further analysis would identify BRT priority and design issues, including traffic signal priority or exclusive lanes, stations, ITS, branding, and guidance and propulsion issues • Commuter BRT route from Jamaica station to Atlantic Ave to Adams/Tillary streets to Flatbush Ave, over Manhattan Bridge to Bowery to Park Row, adjacent to Fulton Transit Center • Airport BRT route from JFK terminals or transfer at AirTrain JFK (Howard Beach) North Conduit Ave to Atlantic Ave to Flatbush Ave, over Manhattan Bridge to Bowery to Park Row • Airport service/route could be used for BRT to Rockaways • Commuter and Airport BRT services could extend to Midtown 	BRT	Both Airport and Commuter	Manhattan Bridge	Short	Consultant Team

LONG LIST OF ALTERNATIVES REPORT**At a Glance**

Alt. #	Name	Description	Mode	Market Served	ERX	Timeframe	Source
138	BRT via Existing Roadways and Atlantic Branch	<ul style="list-style-type: none"> • Two routes would be operated, Jamaica-Park Row, using modern, "clean power" BRT vehicles. Services would make all station stops, with some expresses (stop only at Atlantic Terminal, between Queens and Manhattan) • Additional downtown Brooklyn stops possible • Further analysis would identify BRT priority and design issues, including traffic signal priority or exclusive lanes, stations, ITS, branding, and guidance and propulsion issues • Commuter BRT route from Jamaica station, via Atlantic Branch right-of-way (busway replacing existing rail on right-of-way), to Atlantic Ave to Adams/Tillary St to Flatbush Ave, over Manhattan Bridge to Bowery to Park Row, adjacent to Fulton Transit Center • Airport BRT route from JFK terminals or transfer at AirTrain JFK (Howard Beach), North Conduit Ave to Atlantic Branch right-of-way (busway replacing existing rail on right-of-way) to Atlantic Ave to Adams/Tillary St, to Flatbush Ave, over Manhattan Bridge, to Bowery to Park Row, adjacent to Fulton Transit Center. • Airport service/route could be used for BRT to Rockaways • Commuter and airport BRT services could extend to Midtown 	BRT	Both Airport and Commuter	Manhattan Bridge	Short	Consultant Team

LONG LIST OF ALTERNATIVES REPORT**At a Glance**

Alt. #	Name	Description	Mode	Market Served	ERX	Timeframe	Source
139	BRT via Existing Roadways and Bay Ridge Line	<ul style="list-style-type: none"> • Two routes would be operated, Jamaica-Broadway and JFK-Broadway using modern "clean-power" BRT vehicles. Service would make all station stops • Further analysis would identify BRT priority and design issues, including traffic signal priority or exclusive lanes, stations, ITS, branding, and guidance and propulsion issues • Commuter BRT route from Jamaica Station to Atlantic Ave to Fountain/Logan streets and Linden Blvd to new ramps to Bay Ridge Line to Gowanus Expwy to Battery Tunnel to West St to Broadway, adjacent to Fulton Transit Center • Airport BRT route from JFK terminals or transfer at AirTrain JFK (Howard Beach) to North Conduit Ave to Linden Blvd to new ramps to Bay Ridge Line to Gowanus Expressway to Battery Tunnel to West St, adjacent to Fulton Transit Center • Commuter and Airport BRT services could extend to Midtown • Airport service/route could be used for BRT to Rockaways 	BRT	Both Airport and Commuter	Battery Tunnel	Short	Consultant Team

LONG LIST OF ALTERNATIVES REPORT**At a Glance**

Alt. #	Name	Description	Mode	Market Served	ERX	Timeframe	Source
140	BRT via Existing Roadway and Rockaway Branch	<ul style="list-style-type: none"> • Two routes would be operated, Jamaica-Broadway and JFK-Broadway using modern "clean-power" BRT vehicles. Service would make all station stops • Further analysis would identify BRT priority and design issues, including traffic signal priority or exclusive lanes, stations, ITS, branding, and guidance and propulsion issues • Commuter BRT route from Jamaica Station to Atlantic Ave to new ramps to Old Rockaway Connection to LIRR Main Line (adjacent to four in-service tracks) via new ramps to/from Long Island Expressway to Brooklyn-Queens Expressway, over Manhattan Bridge to Bowery to Park Row, adjacent to Fulton Transit Center • Airport BRT route from JFK terminal or transfer at AirTrain JFK (Howard Beach) to North Conduit Ave to new ramps to NYCT Rockaway Line (adjacent to two in-service tracks) to Old Rockaway Connection to LIRR Main Line (adjacent to four in-service tracks), via new ramps to/from Long Island Expressway to Brooklyn-Queens Expressway, over Manhattan Bridge to Bowery to Park Row, adjacent to Fulton Transit Center 	BRT	Both Airport and Commuter	Manhattan Bridge	Short	Consultant Team
141	Direct Rail Link between Penn Station and LM	<ul style="list-style-type: none"> • Project should investigate all potential corridors that could provide improved commuter and airport access to LM • Construct direct rail link (North Tunnel) from LM to Penn Station, allowing for one seat ride from Westchester, Long Island and Connecticut and with connection to Newark Airport as well as JFK 	Rail	Both Airport and Commuter	LIRR East River Tunnel	Long	Brian Hatch



Combined Alternatives List

Lists the 47 alternatives that were combined/consolidated and specifies the relationship to other alternatives

**Lower Manhattan-Jamaica/JFK Airport Transportation Project
Combined Long List Alternatives**

Alt. #	Name	Description	Source	Relationship to Other Alts
1	Jamaica to Atlantic Terminal Only	<ul style="list-style-type: none"> • Two seat airport service to LM from JFK on existing AirTrain right of way to Jamaica Station • Two seat commuter service to LM from Jamaica Station • Airport and commuter services continue west from Jamaica Station via converted LIRR Atlantic Branch to the existing Atlantic Terminal station, where passengers make a transfer connection to subway lines for the trip to LM. • This alternative could serve as an interim/phasing option for many of the other alternatives 	LMDC Feasibility Study	Phasing strategy-part of all alternatives that use Atlantic Branch
14	New Tunnel - Airport Service only via Howard Beach and Old Rockaway Branch	<ul style="list-style-type: none"> • One seat airport service to LM from JFK on existing AirTrain right of way via Howard Beach • No new commuter service to LM from Jamaica Station • Service connects to the Old Rockaway Branch to Woodhaven Junction where it connects to the LIRR's Atlantic Branch • The service then proceeds to Atlantic Terminal where it continues on through a new LIRR connection to LM 	JFK One Seat Ride Study	Same as Alt. 3 (New Tunnel - Split Service from Howard Beach and Jamaica)
19	Montague Tunnel - LIRR Atlantic Branch Loop via Nassau St Line	<ul style="list-style-type: none"> • Conversion of the Atlantic Branch to a rapid transit operation • Connect Atlantic Branch to Montague Tunnel and created a loop service via Nassau line to Jamaica 	Lower Manhattan Access Study	Same as Alt. 39 (Montague Tunnel - LM Loop Service)
21	LIRR Extension from Atlantic Terminal to LM and from Long Island City to Grand Central Terminal	<ul style="list-style-type: none"> • Extend commuter rail from Atlantic Terminal to LM and from Long Island City to Grand Central Terminal 	Lower Manhattan Access Study	Part of Alt. 2/3/5/8 (New Tunnel) - eliminated GCT-LM section

**Lower Manhattan-Jamaica/JFK Airport Transportation Project
Combined Long List Alternatives**

Alt. #	Name	Description	Source	Relationship to Other Alts
22	LIRR Extension from Atlantic Terminal to LM	<ul style="list-style-type: none"> • Extend LIRR Atlantic Branch in Brooklyn to Battery Park, South St or City Hall 	Lower Manhattan Access Study	Same as Alt. 31 (New Tunnel - Extend LIRR Commuter Service from Long Island to LM)
24	Hybrid Commuter Rail/Subway Cars	<ul style="list-style-type: none"> • Use of a hybrid vehicle that operates on both commuter rail and subway tracks for a one-seat commute from the suburbs 	Lower Manhattan Access Study	Part of Alt. 2/3/5/8 (New Tunnel)
26	Regional Express Rail from Atlantic Terminal to LM and Grand Central Terminal	<ul style="list-style-type: none"> • Construct a new line from Atlantic Ave Terminal to Grand Central Terminal, with a stop in LM 	Lower Manhattan Access Study	Same as Alt. 31 (New Tunnel - Extend LIRR Commuter Service from Long Island to LM)
27	Atlantic Branch Converted to Division B Standards	<ul style="list-style-type: none"> • Convert Atlantic Branch LIRR Line to modified Division B standards, build a track connection at Atlantic Terminal and operate through trains to Manhattan 	Lower Manhattan Access Study	Part of Alt. 2/3/5/8 (New Tunnel)
28	LIRR Service from Atlantic Terminal via Governor's Island Station	<ul style="list-style-type: none"> • Extend LIRR service through the Atlantic Ave tunnel under the Governor's Island Station to either the vicinity of South Ferry or the World Trade Center • Use of Conrail freight structure and additions down West St to Brooklyn Battery Tunnel 	Lower Manhattan Access Study	Same as Alt. 31 (New Tunnel - Extend LIRR Commuter Service from Long Island to LM)

**Lower Manhattan-Jamaica/JFK Airport Transportation Project
Combined Long List Alternatives**

Alt. #	Name	Description	Source	Relationship to Other Alts
29	Shuttle Service from Grand Central Terminal and/or Jamaica to LM	<ul style="list-style-type: none"> Construct or utilize existing rights-of-way such as the BMT Broadway Line or LIRR Atlantic Branch for high quality shuttle service from Grand Central Terminal and/or Jamaica to Lower Manhattan 	Lower Manhattan Access Study	Part of Alt. 2/3/5/8 (New Tunnel) - eliminated GCT-LM section
32	New Tunnel from Penn Station to LM	<ul style="list-style-type: none"> Construct a new railroad tunnel from Penn Station to a new LM station or stations One potential option for this alternative would extend the tunnel to Atlantic Terminal in Brooklyn to allow through running of service 	Lower Manhattan Access Study	Same as Alt. 31 (New Tunnel - Extend LIRR Commuter Service from Long Island to LM)- eliminate PSNY-LM section
34	Bus and HOV Lanes from Key Suburbs	<ul style="list-style-type: none"> Provide service to LM using dedicated bus or high-occupancy vehicle lanes to improve access from key suburban areas 	Lower Manhattan Access Study	Same as Alt. 20 (HOV Access from Long Island)
35	Convert LIRR Atlantic Branch to Subway Service	<ul style="list-style-type: none"> Convert the LIRR Atlantic Branch (between Jamaica Station and Atlantic Ave Terminal) into a New York City Transit rapid transit line 	Lower Manhattan Access Study	Part of Alt. 2/3/5/8 (New Tunnel)
36	Convert LIRR Atlantic Branch to Subway Service-Division A	<ul style="list-style-type: none"> Convert LIRR Atlantic Branch to A Division standards, build downtown Brooklyn tunnel connection and abandon Atlantic Terminal 	Lower Manhattan Access Study	Part of Alt. 2/3/5/8 (New Tunnel)
37	New Tunnel - LIRR Atlantic Branch Extension	<ul style="list-style-type: none"> Extend LIRR Atlantic Branch from the vicinity of the present LIRR Atlantic Terminal to the foot of Atlantic Ave and Furman St Build a new rail tunnel to LM 	Lower Manhattan Access Study	Part of Alt. 2/3/5/8 (New Tunnel)

**Lower Manhattan-Jamaica/JFK Airport Transportation Project
Combined Long List Alternatives**

Alt. #	Name	Description	Source	Relationship to Other Alts
42	New Tunnel to Replace Manhattan Bridge Service	<ul style="list-style-type: none"> • Construct a new East River rail tunnel • This tunnel replaces the Manhattan Bridge subway tracks with a subway tunnel that would be able to accommodate an extension of the Atlantic Branch 	Lower Manhattan Access Study	Part of Alt. 2/3/5/8 (New Tunnel)
44	New Tunnel - Second Ave Subway to Grand Central Terminal	<ul style="list-style-type: none"> • Provide high speed-high amenity express service from a new Grand Central "under" Terminal, via Second Ave Subway, to Nassau St Station • A second service operates via Second Ave Subway to Water St and to Brooklyn via new tunnel 	Lower Manhattan Access Study	Same as Alt. 71/72 (New Tunnel via Jamaica - Second Ave Subway Connection)
65	New Tunnel via Jamaica - Second Ave Subway Connection	<ul style="list-style-type: none"> • One seat airport service to LM from JFK on existing AirTrain right of way via Jamaica Station • One seat commuter service to LM from Jamaica Station • Airport and commuter services continue west from Jamaica Station via converted LIRR Atlantic Branch with commuter stops at East New York and Nostrand Ave and a new station stop for both services below Atlantic Terminal • Service continues through a new East River tunnel and connects to the Second Ave Subway at Water St • Service continues north, stopping at 34th St and terminating at Grand Central Terminal 	LMDC Feasibility Study	Same as Alt. 71/72 (New Tunnel via Jamaica - Second Ave Subway Connection)
66	Existing Tunnel via Jamaica	<ul style="list-style-type: none"> • Airport service to Jamaica via the existing AirTrain right-of-way, connecting to the LIRR's Atlantic Branch • The service then proceeds to Atlantic Ave Terminal where it continues on through a new LIRR connection to LM 	JFK AirTrain Study	Same as Alt. 2/3/5/8 (New Tunnel)
67	New Tunnel - Second Avenue Subway via BMT Line Connection at 63rd St	<ul style="list-style-type: none"> • Second Ave Subway from Grand Concourse at 161st St turns west at 63rd St to the Broadway BMT and proceeds to LM • The second phase extends service south through a new East River tunnel to Atlantic Terminal 	Lower Manhattan Access Study	Same as Alt. 71/72 (New Tunnel via Jamaica - Second Ave Subway Connection)

**Lower Manhattan-Jamaica/JFK Airport Transportation Project
Combined Long List Alternatives**

Alt. #	Name	Description	Source	Relationship to Other Alts
68	LIRR-IRT Connection at Atlantic Terminal	<ul style="list-style-type: none"> • Tie the LIRR with the IRT 2/3/4/5 at Atlantic Terminal 	Lower Manhattan Access Study	Same as Alt. 25 (Atlantic Terminal Express Subway Service to Wall St)
69	Convert LIRR Atlantic Branch to Rapid Transit	<ul style="list-style-type: none"> • Convert LIRR Atlantic Branch to NYCT service between Brooklyn and Jamaica, providing direct rapid transit service from Jamaica • Service continues from Brooklyn to LM terminal through to Midtown 	Lower Manhattan Access Study	Part of Alt. 2/3/5/8 (New Tunnel)
70	New Tunnel via Jamaica - 8th Ave Line Connection	<ul style="list-style-type: none"> • One seat airport service to LM from JFK on existing AirTrain right of way via Jamaica Station • One seat commuter service to LM from Jamaica Station • Airport and commuter services continue west from Jamaica Station via converted LIRR Atlantic Branch • A new station stop serves downtown Brooklyn in the vicinity of Tillary St and Adams St • Service proceeds under Pineapple St to a new East River tunnel and enters LM under Maiden La • Airport service terminates at a new station in vicinity of Legion Memorial Square • Commuter service connects to the 8th Ave Line E at the WTC • A transit level fare should be examined for any new service to measure the ridership potential 	RPA	Same as Alt. 5 (New Tunnel via Jamaica - 8th Ave Line Connection) - with additional station in Downtown Brooklyn

**Lower Manhattan-Jamaica/JFK Airport Transportation Project
Combined Long List Alternatives**

Alt. #	Name	Description	Source	Relationship to Other Alts
73	New Tunnel via Jamaica - Split to Second Ave Subway and 8th Ave Line at the Battery	<ul style="list-style-type: none"> • One seat airport service to LM from JFK on existing AirTrain right of way via Jamaica Station • One seat commuter service to LM from Jamaica Station • Airport and commuter services continue west from Jamaica Station via converted LIRR Atlantic Branch but do not serve Downtown Brooklyn • Service continues through a new tunnel and splits near the Battery to connect to both the SAS and the 8th Ave Line E • A transit level fare should be examined for any new service to measure the ridership potential 	RPA	Same as Alt. 5
77	High Speed Atlantic Branch Shuttle	<ul style="list-style-type: none"> • Convert Atlantic Branch to rapid transit service with a separate fare and run a high-speed shuttle between Jamaica and Atlantic Terminal 	Stanley Harwich, Community Board #9	Part of Alt. 2/3/5/8 (New Tunnel)
82	New Tunnel Connection to Both Second Ave Subway and 8th Ave Line (2 options)	<ul style="list-style-type: none"> • A new tunnel connection to SAS and 8th Ave lines provides access to east and west sides of Manhattan, realizing the full capacity of the new tunnel • The "high-level" option connects the new tunnel to the 8th Ave line, using the existing WTC E station • The "low-level option" connects the new tunnel to the SAS, using the Hanover Square Station, and connects to the 8th Ave Line • The connection to the 8th Ave Line would have a new station deep beneath Church St and, using the Worth St bellmouth, would connect to the 8th Ave line just south of Canal St 	Robert A. Olmsted	Same as Alt 72,120,121
83	Reactivate LIRR Old Rockaway Branch to LM	<ul style="list-style-type: none"> • Extend service from Howard Beach/JFK, along existing right-of-way and connect to Atlantic Branch, Atlantic Terminal and LM (crossing not specified) • Reactivate station at Ozone Park 	Allan Smith	Part of Alt 3/10

**Lower Manhattan-Jamaica/JFK Airport Transportation Project
Combined Long List Alternatives**

Alt. #	Name	Description	Source	Relationship to Other Alts
87	Intermodal Connection to Second Ave Subway and E line	<ul style="list-style-type: none"> • Connect to Second Ave Subway and 8th Ave E line, providing an intermodal, interconnected link 	Rick Mueller, representing C. Virginia Fields	Part of Alt. 72 (New Tunnel via Jamaica - Second Ave Subway and 8th Ave Line Connection)
88	LIRR One Seat Ride - Second Ave Subway and PATH Connections	<ul style="list-style-type: none"> • One-seat ride from Long Island to LM with more stops in Brooklyn and along Atlantic Ave • The terminal station should connect to the Second Ave Subway and PATH at WTC 	Patrick Contolanzzi, Kew Gardens resident	Part of Alt. 71 (New Tunnel via Jamaica - Second Ave Subway Connection)
89	Old Rockaway Branch Express and Local Service	<ul style="list-style-type: none"> • Reactivate Old Rockaway Branch with express and local service • Redirect A train service to Howard Beach Station, extend C service to Lefferts Blvd and run E service to the current C train terminus 	Barry Adler	Part of Alt. 78/86 (New Subway K Train Service)
91	Improve A Train Service	<ul style="list-style-type: none"> • Increase A train frequency and upgrade cars to have a better appeal to air travelers 	Ellyn Shannon, MTA PCAC	Same as Alt. 114
93	New Tunnel with Airport Connection via Howard Beach, and connection to Second Ave Subway and E line	<ul style="list-style-type: none"> • Modify AirTrain so it can take real railroad cars, run them over the A train tracks, connect to the LIRR and build a new tunnel into LM • The new tunnel should connect to Second Ave Subway and E line 	Eugene Falik	Same as Alt. 72 (New Tunnel via Jamaica - Second Ave Subway and 8th Ave Line Connection)
94	Conversion of Atlantic Branch to IRT	<ul style="list-style-type: none"> • Change LIRR Atlantic Branch to IRT 	Torin Reid	Part of all new tunnel and existing tunnel alts.

**Lower Manhattan-Jamaica/JFK Airport Transportation Project
Combined Long List Alternatives**

Alt. #	Name	Description	Source	Relationship to Other Alts
95	Rockaway Connection to Atlantic Branch and Main Line	<ul style="list-style-type: none"> • Improve transit in southern Queens by connecting the Old Rockaway Branch to the Atlantic line, and sometime in the future, through to the LIRR Main Line 	Norman Silverman	Same as Alt. 78/83/84 (New Subway K Train Service)
99	Second Station in Downtown Brooklyn	<ul style="list-style-type: none"> • Two stations are needed in Brooklyn • A second station should be added in the vicinity of MetroTech 	Ken Adams, Brooklyn Chamber of Commerce	Part of Alt. 70/71/72/73/97 (New Tunnel via Jamaica)
100	Second Station in Downtown Brooklyn	<ul style="list-style-type: none"> • Two stations are needed in Brooklyn • A second station should be added in the vicinity of MetroTech 	Michael Burke, Downtown Brooklyn Council	Part of Alt. 70/71/72/73/97 (New Tunnel via Jamaica)
101	New Tunnel with Additional Downtown Brooklyn Stops at Hoyt-Schermerhorn	<ul style="list-style-type: none"> • New Tunnel to LM with three or four Brooklyn station stops, one at Hoyt-Schermerhorn, and connection to Second Ave Subway 	Carolyn Konheim	Same as Alt. 71 (New Tunnel via Jamaica - Second Ave Subway Connection)
103	Second Brooklyn Stop	<ul style="list-style-type: none"> • In addition to the Atlantic Ave station, a new station should be situated in the heart of Downtown Brooklyn, in the Metro Tech/Borough Hall area 	Harvey Schultz, Muss Development Company	Part of Alt. 70/71/72/73/97 (New Tunnel via Jamaica)
104	Montague Tunnel via Atlantic Branch and Old Rockaway Connection	<ul style="list-style-type: none"> • "A Diamond" Rockaway Park and Far Rockaway service via Old Rockaway Branch, Atlantic Branch, and Montague Street Tunnel (6 trains/hour) • H line from Jamaica to Canal Street via Atlantic Branch, Montague Tunnel and Nassau line (10 trains/hour) • Stops at reopened Woodhaven Junction, Proposed Ozone Park, proposed Woodhaven Blvd, East New York and Nostrand Ave stations 	Carl Perrera	Same as Alt. 115

**Lower Manhattan-Jamaica/JFK Airport Transportation Project
Combined Long List Alternatives**

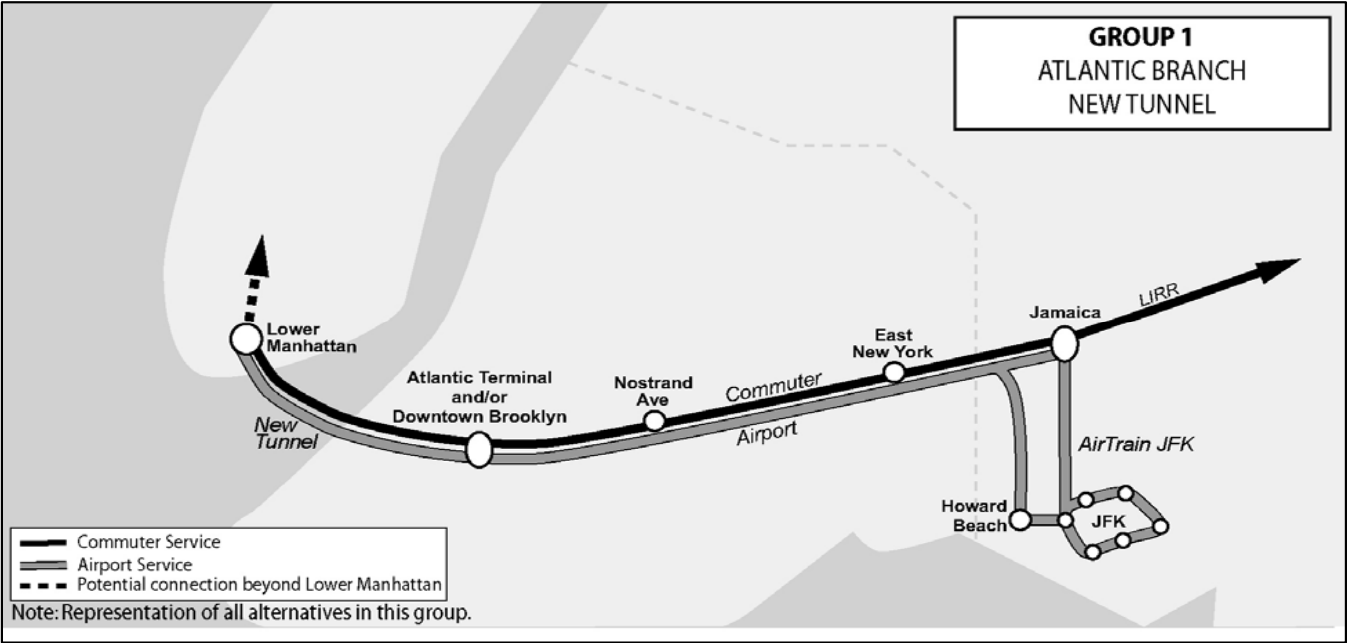
Alt. #	Name	Description	Source	Relationship to Other Alts
105	Montague Tunnel via Atlantic Branch and Old Rockaway Connection - LIRR to Woodhaven, Super "A Diamond" Express and H line to Aqueduct	<ul style="list-style-type: none"> • Same as Alt. 104 with H line starting at Aqueduct station and LIRR service to new station at Woodhaven Junction 	Carl Perrera	Same as Alt. 116
106	Montague Tunnel via Atlantic Branch and Old Rockaway Connection - Super "A Diamond" Express and E line to Jamaica	<ul style="list-style-type: none"> • "A Diamond" Rockaway Park and Far Rockaway rush hour service via Old Rockaway Branch, Atlantic Branch, and Montague Street Tunnel (6 trains/hour) • E line from Jamaica to Canal Street via Atlantic Branch, Montague Tunnel and Nassau line (10 trains/hour) • Stops at reopened Woodhaven Junction, proposed Ozone Park, proposed Woodhaven Blvd, East New York and Nostrand Ave stations 	Carl Perrera	Same as Alt. 117
109	Re-Open LIRR Rockaway Beach Line	<ul style="list-style-type: none"> • Utilization of the Old Rockaway Branch will help the transportation problem and enhance the quality of life for Rockaways citizens 	Laura Feldman	Same as Alt. 78/83/84 (New Subway K Train Service)
110	Use Existing Tunnel under East River	<ul style="list-style-type: none"> • Using an existing tunnel is economical and has engineering advantages 	Customer email	Part of all existing tunnel alts.
111	Super A Express Train	<ul style="list-style-type: none"> • Institute a super A express train between Rockaways, Howard Beach/JFK and Lower Manhattan 	Michele Silverman	Same as Alt. 64

**Lower Manhattan-Jamaica/JFK Airport Transportation Project
Combined Long List Alternatives**

Alt. #	Name	Description	Source	Relationship to Other Alts
112	Added Station in Downtown Brooklyn	<ul style="list-style-type: none"> • "Transportation and Economic Benefits of an Added Station in Downtown Brooklyn for the Lower Manhattan Rail Link" recommends locating a station in Downtown Brooklyn more centrally located to Brooklyn's commercial hub than the Atlantic Terminal area, possibly in the vicinity of Borough Hall and MetroTech • The report also presents RPA's proposed alignment options 	Downtown Brooklyn Council	Part of Alt. 70/71/72/73 (New Tunnel via Jamaica)
113	Reactivate Rockaway Branch and Connect to LIRR Main Line	<ul style="list-style-type: none"> • Initial phase is to extend AirTrain to connect to A Line at Howard Beach, with connections to Old Rockaway Branch and the Atlantic Branch at Woodhaven Junction • Second Phase to use Old Rockaway Branch to connect to LIRR Main Line at Rego Park • Use of interoperable rolling stock (LIRR and AirTrain) with separate commuter and airport services • Potential for station at Woodhaven Junction 	Philip Strong	Same as Alt. 84
131	Super A Express Train	<ul style="list-style-type: none"> • Institute a Super A express train between Rockaway and Manhattan 	Quintin Clough	Same as Alt. 114



Alternative Group Summaries



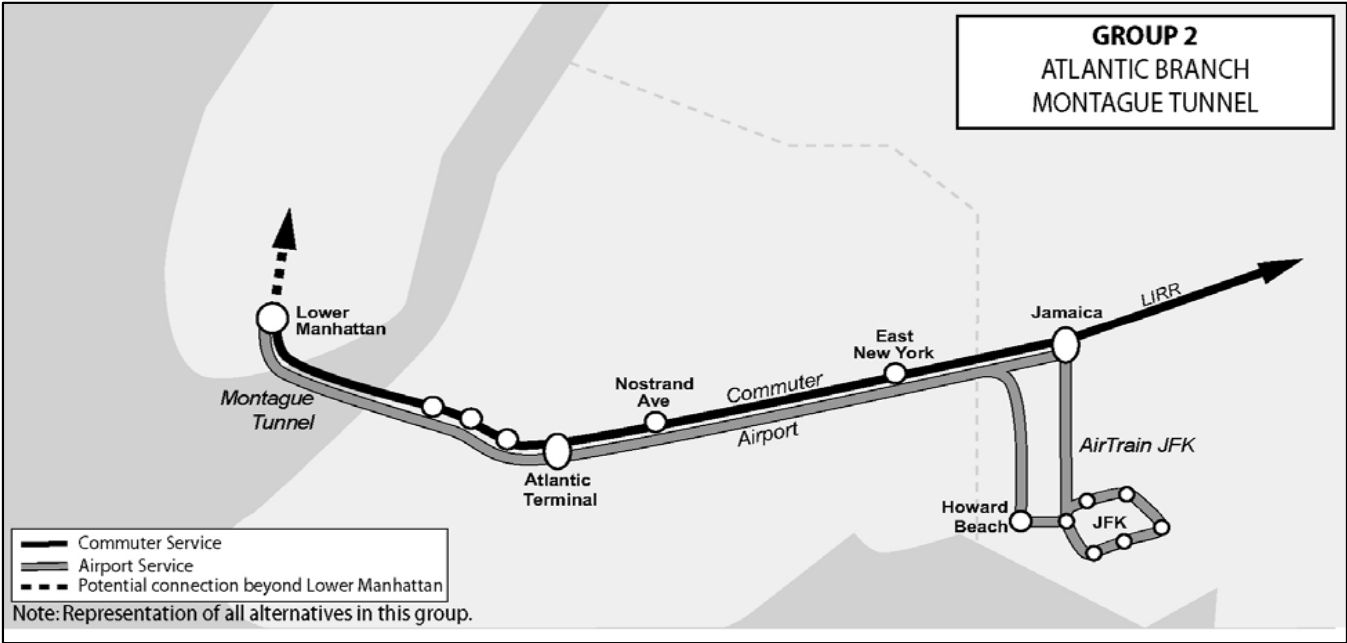
ALT ID	NAME	MARKETS SERVED	SERVICE NORTH/WEST OF LOWER MANHATTAN	LOWER MANHATTAN STATION	EAST RIVER CROSSING	POTENTIAL BROOKLYN AND QUEENS STOPS	JAMAICA CONNECTIVITY	SERVICE EAST OF JAMAICA/ JFK	DESCRIPTION
SECOND AVENUE SUBWAY CONNECTION									
2	New Tunnel via Jamaica - Potential Second Ave Subway Connection	Both Airport and Commuter	Potential connection to Second Ave Subway	New station in vicinity of Fulton Transit Center and WTC (airport and commuter)	New Tunnel	East New York; Nostrand Ave; Atlantic Ave	Commuter transfer to/from LIRR; Airport one seat ride betw LM/JFK	None	<ul style="list-style-type: none"> One seat airport service to LM from JFK on existing AirTrain right of way via Jamaica Station One seat commuter service to LM from Jamaica Station Airport and commuter services continue west from Jamaica Station via converted LIRR Atlantic Branch with commuter stops at East New York and Nostrand Ave and a new station below Atlantic Terminal Service continues to a new East River tunnel and terminates in a new LM station in vicinity of Fulton Transit Center and WTC Potential for future connection to Second Ave Subway at Water St
71	New Tunnel via Jamaica - Second Ave Subway Connection	Both Airport and Commuter	Proposed connection to Second Ave Subway	Hanover Square (commuter) and new station in vicinity of Fulton Transit Center and WTC (airport)	New Tunnel	East New York; Nostrand Ave; Atlantic Ave; Jay St/Borough Hall	Commuter transfer to/from LIRR; Airport one seat ride betw LM/JFK	None	<ul style="list-style-type: none"> One seat airport service to LM from JFK on existing AirTrain right of way via Jamaica Station One seat commuter service to LM from Jamaica Station Airport and commuter services continue west from Jamaica Station via converted LIRR Atlantic Branch A new station stop serves downtown Brooklyn in the vicinity of Adams St and Fulton St Service turns under Pierpont St to a new East River tunnel and enters LM in the area of Coenties Slip Airport service terminates at a new station in vicinity of Fulton Transit Center and WTC Commuter service connects to Second Ave Subway, with a stop at Hanover Square If the above alignment is not possible, an alternate alignment would follow Atlantic Ave in Brooklyn and enter LM at the Battery A NYCT level fare should be examined for any new service to measure the ridership potential

ALT ID	NAME	MARKETS SERVED	SERVICE NORTH/WEST OF LOWER MANHATTAN	LOWER MANHATTAN STATION	EAST RIVER CROSSING	POTENTIAL BROOKLYN AND QUEENS STOPS	JAMAICA CONNECTIVITY	SERVICE EAST OF JAMAICA/ JFK	DESCRIPTION
72	New Tunnel via Jamaica - Second Ave Subway and 8th Ave Line Connection	Both Airport and Commuter	Proposed connection to Second Ave Subway and 8th Ave line at WTC E station	Hanover Square and Existing WTC Station (commuter) and new station in vicinity of Fulton Transit Center and WTC (airport)	New Tunnel	East New York; Nostrand Ave; Atlantic Ave; Downtown Brooklyn	Commuter transfer to/from LIRR; Airport one seat ride betw LM/JFK	None	<ul style="list-style-type: none">• One seat airport service to LM from JFK on existing AirTrain right of way via Jamaica Station• One seat commuter service to LM from Jamaica Station• Airport and commuter services continue west from Jamaica Station via converted LIRR Atlantic Branch• A new station stop serves downtown Brooklyn in the vicinity of Adams St and Fulton St• Service turns under Pierpont St to a new East River tunnel and enters LM in the area of Coenties Slip• In LM the airport service terminates at a new station in vicinity of Fulton Transit Center and WTC• Commuter service connects to Second Ave Subway, with a stop at Hanover Square and also connects to the 8th Ave Line E at the WTC station• If the above alignment is not possible, an alternate alignment would follow Atlantic Ave in Brooklyn and enter LM at the Battery• A NYCT level fare should be examined for any new service to measure the ridership potential
120	New Tunnel Connection to Both Second Ave Subway (South End) and 8th Ave Line	Both Airport and Commuter	Second Ave Subway and 8th Ave Line	Hanover Sq and Trinity Place (Commuter and Airport)	New Tunnel	TBD	TBD	None	<ul style="list-style-type: none">• Tracks from East River turn into Trinity Place to a deep station under Church St• Connect to 8th Ave Line north of new station near Franklin St, south of Worth St bellmouth• Connect to south end of Second Ave Subway, as shown in LMDC report• Brooklyn trains alternate between Second Ave Subway and 8th Ave Line in "split service"
121	New Tunnel Connection to Both Second Ave Subway at Hanover Square and 8th Ave Line	Both Airport and Commuter	Second Ave Subway and 8th Ave Line	Hanover Sq and Vicinity of WTC (Commuter and Airport)	New Tunnel	TBD	TBD	None	<ul style="list-style-type: none">• Tracks from East River turn into Water St and pass through a redesigned, lower level Hanover Sq Station• Service turns west under Liberty St to a deep station in vicinity of WTC• Connection to 8th Ave Line is made at Worth St bellmouth• Benefit is two LM stations on a single line
123	New Tunnel to Court Street (Museum) IND Station	Both Airport and Commuter	N/A	N/A	New Tunnel	TBD	TBD	None	<ul style="list-style-type: none">• Connect the new East River tunnel to the IND Court St Station (Museum)• Take advantage of underutilized tracks A1 and A2• Lower profile of Museum Station and use Hoyt St Station as downtown Brooklyn stop
8TH AVENUE LINE CONNECTION									
5	New Tunnel via Jamaica - 8th Ave Line Connection	Both Airport and Commuter	Proposed connection to 8th Ave line at WTC E station	Existing WTC 8th Ave Line Station and stations north (commuter) and new station in vicinity of Fulton Transit Center and WTC (airport)	New Tunnel	East New York; Nostrand Ave; Atlantic Ave	Commuter transfer to/from LIRR; Airport one seat ride betw LM/JFK	None	<ul style="list-style-type: none">• One seat airport service to LM from JFK on existing AirTrain right of way via Jamaica Station• One seat commuter service to LM from Jamaica Station• Airport and commuter services continue west from Jamaica Station via converted LIRR Atlantic Branch with commuter stops at East New York and Nostrand Ave and a new station stop for both services below Atlantic Terminal• Service continues through a new East River tunnel• Tunnel alignment is to southern tip of LM, with service connecting to the 8th Ave Line E at the existing WTC station• A separate airport station area is provided in the vicinity of WTC and Fulton Transit Ctr• Commuter service continues on the 8th Ave Line stations north of WTC

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6	New Tunnel via Jamaica - 6th Ave Line Connection	Both Airport and Commuter	Proposed connection to 8th Ave line at WTC E station and shift to 6th Ave line at W. 4th St	Existing World Trade 8th Ave Center Station and stations north to 6th Ave Line (commuter) and new station in vicinity of Fulton Transit Center and WTC (airport)	New Tunnel	East New York; Nostrand Ave; Atlantic Ave	Commuter transfer to/from LIRR; Airport one seat ride betw LM/JFK	None	<ul style="list-style-type: none">• One seat airport service to LM from JFK on existing AirTrain right of way via Jamaica Station• One seat commuter service to LM from Jamaica Station• Airport and commuter services continue west from Jamaica Station via converted LIRR Atlantic Branch with commuter stops at East New York and Nostrand Ave and a new station stop for both services below Atlantic Terminal• Service continues through a new East River tunnel• Tunnel alignment is to southern tip of LM, connecting to the 8th Ave Line E, with a stop at the existing WTC station• A separate airport station area is provided in the vicinity of WTC and Fulton Transit Ctr• Commuter service continues north on 8th Ave Line from WTC to W4th St, where it shifts to the 6th Ave Line B/D/F/V
74	New Tunnel via Jamaica - Potential 8th Ave Line Connection	Both Airport and Commuter	Potential connection to 8th Ave line at WTC E station	New station in vicinity of Fulton Transit Center and WTC (airport and commuter)	New Tunnel	East New York; Nostrand Ave; Atlantic Ave	Commuter transfer to/from LIRR; Airport one seat ride betw LM/JFK	None	<ul style="list-style-type: none">• One seat airport service to LM from JFK on existing AirTrain right of way via Jamaica Station• One seat commuter service to LM from Jamaica Station• Airport and commuter services continue west from Jamaica Station via converted LIRR Atlantic Branch with commuter stops at East New York and Nostrand Ave and a new station stop for both services below Atlantic Terminal• Service continues through a new East River tunnel to a new station in the vicinity of the existing WTC station, with a possible connection to the 8th Ave Line E
7TH AVENUE LINE CONNECTION									
8	New Tunnel via Jamaica - 7th Ave Line Connection	Both Airport and Commuter	Proposed connection to 7th Ave Line at South Ferry 1 station	South Ferry, Rector and Cortlandt 7th Ave Line Stations and stations north (commuter) and new station in vicinity of Cortlandt St (airport)	New Tunnel	East New York; Nostrand Ave; Atlantic Ave	Commuter transfer to/from LIRR; Airport one seat ride betw LM/JFK	None	<ul style="list-style-type: none">• One seat airport service to LM from JFK on existing AirTrain right of way via Jamaica Station• One seat commuter service to LM from Jamaica Station• Airport and commuter services continue west from Jamaica Station via converted LIRR Atlantic Branch, with commuter stops at East New York and Nostrand Ave and a new station stop for both services below Atlantic Terminal• Service continues through a new East River tunnel• Tunnel alignment is to southern tip of LM, with commuter service connecting to the 7th Ave Line 1/2/3, with commuter stops at South Ferry, Rector St and Cortlandt St stations• Commuter service continues north on 7th Ave Line from Cortlandt St• A separate airport terminal is located near the Cortlandt St Station with connection to the WTC
AIRPORT TRANSFER AT JAMAICA									
4	New Tunnel - Jamaica Commuter Service Only	Commuter Only	None	New station in vicinity of Fulton Transit Center and WTC (commuter)	New Tunnel	East New York; Nostrand Ave; Atlantic Ave	Commuter transfer to/from LIRR; Airport transfer to/from JFK	None	<ul style="list-style-type: none">• Two seat airport service to LM from JFK on existing AirTrain right of way, requiring transfer from AirTrain at Jamaica Station to new commuter service• One seat commuter service to LM from Jamaica Station• Commuter service continues west from Jamaica Station via LIRR Atlantic Branch with stops at East New York, Nostrand Ave and a new station stop below Atlantic Terminal• Service continues through a new East River tunnel and terminates in a new LM station in vicinity of Fulton Transit Center and WTC

ALT ID	NAME	MARKETS SERVED	SERVICE NORTH/WEST OF LOWER MANHATTAN	LOWER MANHATTAN STATION	EAST RIVER CROSSING	POTENTIAL BROOKLYN AND QUEENS STOPS	JAMAICA CONNECTIVITY	SERVICE EAST OF JAMAICA/ JFK	DESCRIPTION
31	New Tunnel - Extend LIRR Commuter Service from Long Island to LM	Commuter Only	None	New station in vicinity of Fulton Transit Center and WTC (commuter)	New Tunnel	East New York; Nostrand Ave; Atlantic Ave	Commuter one seat ride to/from Long Island; Airport transfer to/from JFK	Service to LIRR Branches	<ul style="list-style-type: none">• Two seat airport service to LM from JFK, requiring transfer from AirTrain at Jamaica Station to new commuter service• One seat commuter service to LM from Long Island on LIRR service, with a Jamaica Station stop• Commuter service continues west from Jamaica Station via LIRR Atlantic Branch with stops at East New York, Nostrand Ave and a new station stop below Atlantic Terminal• Service continues through a new East River tunnel and terminates in a new LM station in vicinity of Fulton Transit Center and WTC
80	LIRR Through Service to Hicksville/Babylon	Commuter	None	TBD	New Tunnel	TBD	Commuter one seat ride from LI; Airport transfer to/from JFK	Service to LIRR Branches	<ul style="list-style-type: none">• Direct LIRR service through Jamaica, with two downtown expresses: One from LM to Hicksville, alternating between Huntington and Ronkonkoma terminals; the other over the Babylon line to complement a shuttle, or at least not precluding such an operation• Under this LIRR option, a local service could serve the Queens stations on the Far Rockaway branch between Rosedale and Jamaica and could make the local stops along Atlantic Ave, thus improving service to SE Queens and Brooklyn
RAILROAD CONNECTION (FRA)									
75	New Tunnel via Jamaica - Airport and Long Island Thru Service	Both Airport and Commuter	None	New station in vicinity of Fulton Transit Center and WTC (commuter)	New Tunnel	East New York; Nostrand Ave; Atlantic Ave	Commuter one seat ride to/from Long Island; Airport one seat ride betw LM/JFK	Service to LIRR Branches	<ul style="list-style-type: none">• One seat airport service to LM from JFK on existing AirTrain right-of-way via Jamaica Station• One seat commuter service to LM from Long Island on LIRR service, with a Jamaica Station stop• Both services continue west from Jamaica Station via LIRR Atlantic Branch with commuter stops at East New York, Nostrand Ave and a new station stop for both services below Atlantic Terminal• Both services continue through a new East River tunnel and terminate in a new LM station in vicinity of Fulton Transit Center and WTC
76	New Tunnel - PATH Extension to Jamaica Station	Commuter	Proposed connection to PATH to New Jersey	PATH	New Tunnel	East New York; Nostrand Ave; Atlantic Ave	Commuter transfer to/from LIRR; Airport transfer to/from JFK	None	<ul style="list-style-type: none">• Two seat airport service to LM from JFK on existing AirTrain right of way via Jamaica Station, requiring transfer from AirTrain at Jamaica Station to new commuter service• One seat commuter service to LM from Jamaica Station• Commuter service continues west from Jamaica Station via converted LIRR Atlantic Branch with stops at East New York and Nostrand Ave and a new station stop below Atlantic Terminal• Service continues to a new East River tunnel, where it connects to the existing PATH Line in the vicinity of the WTC and terminates at the WTC PATH station
132	Priority Commuter Service	Commuter	TBD	TBD	New Tunnel	<ul style="list-style-type: none">• Downtown Brooklyn near MetroTech and Jay St/Boro Hall• Richmond Hill, Ocean Hill, Cypress Hills, Woodhaven	Commuter one seat ride from LI	Service to LIRR Branches	<ul style="list-style-type: none">• Extend LIRR commuter service between Eastern Long Island and LM to serve new stations in downtown Brooklyn and LM• Locate downtown Brooklyn station near MetroTech and Jay St/Borough Hall Station• Site LM station to be fully integrated with Second Ave Subway and Fulton Transit Center• Add stops on Atlantic Ave to attract Brooklyn and Queens commuters

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NEW TUNNEL ADD-ONS									
90	Four Track New Tunnel	Both Airport and Commuter	TBD	TBD	New Tunnel	TBD	TBD	TBD	<ul style="list-style-type: none">• The new tunnel should have four tracks: two for subway, one for LIRR, and one for AirTrain
97	New Tunnel - MetroTech Stop and Utica Ave Corridor service	TBD	Proposed connection to Second Ave Subway and 8th Ave line at WTC E station	TBD	New Tunnel	Atlantic Terminal; MetroTech	Commuter transfer to/from LIRR TBD; Airport one seat ride betw LM/JFK	None	<ul style="list-style-type: none">• New tunnel to LM with a second stop at MetroTech, direct airport connection from Brooklyn to JFK, connection to Second Ave Subway and E train• Excess capacity in tunnel could allow Second Ave Subway trains to serve the Utica Ave corridor in Brooklyn
128	Second Downtown Brooklyn Stop	TBD	N/A	TBD	New Tunnel	TBD	N/A	N/A	<ul style="list-style-type: none">• Proceed with new tunnel alternative• Include a second downtown Brooklyn stop that could allow for a convenient transfer to the A, C and F lines• EIS should be consistent with the Downtown Brooklyn Development Plan
130	New Tunnel via Court St BMT-E Extension	Both Airport and Commuter	A Line and E Line	Whitehall, Broad and Fulton (Commuter)	New Tunnel	TBD	Commuter transfer to/from LIRR ; Airport transfer to/from JFK	None	<ul style="list-style-type: none">• Construct new tunnel connecting Court St (Museum Station) with bellmouth south of Whitehall St Station in LM• Extend E service to Brooklyn where it would replace R service• New services would allow four track operation, doubling Fulton Line capacity• Connect Atlantic Branch to Fulton Line for Jamaica to LM direct service• Reroute C service through new tunnel
AIRPORT VIA HOWARD BEACH									
3	New Tunnel - Split Service from Howard Beach and Jamaica	Both Airport and Commuter	None	New Station 'Vicinity of Fulton Transit Center and WTC site (airport and commuter)	New Tunnel	East New York; Nostrand Ave; Atlantic Ave	Commuter transfer to/from LIRR; Airport one seat ride betw LM/JFK	None	<ul style="list-style-type: none">• One seat airport service to LM from JFK on existing AirTrain right of way via Howard Beach• One seat commuter service to LM from Jamaica Station• Airport service proceeds west from Howard Beach via the Fulton A Line with a connection via Old Rockaway Branch to converted LIRR Atlantic Branch in vicinity of Rockaway Blvd• Commuter service proceeds west from Jamaica on the LIRR Atlantic Branch• Commuter service makes stops at East New York and Nostrand Ave and both services stop at a new station below Atlantic Terminal• Service continues through a new East River tunnel and terminates in a new LM station in vicinity of Fulton Transit Center and WTC
7	New Tunnel - Split Service to Howard Beach/JFK and Jamaica Eastbound	Both Airport and Commuter	None	New Station Vicinity of Fulton Transit Center and WTC site (airport and commuter)	New Tunnel	East New York; Nostrand Ave; Atlantic Ave, DeKalb Ave, Lawrence St and Court St.	Commuter transfer to/from LIRR; Airport one seat ride betw LM/JFK	None	<ul style="list-style-type: none">• One seat airport service to LM from JFK on existing AirTrain right of way via Jamaica Station• One seat commuter service to LM from Jamaica Station• Airport and commuter services continue west from Jamaica Station via converted LIRR Atlantic Branch with commuter stops at East New York and Nostrand Ave and a new station stop for both services below Atlantic Terminal• Service continues through a new East River tunnel and terminates in a new LM station in the vicinity of the Fulton Transit Center and WTC• On the eastbound airport trip to JFK from the LM terminal, service is to Howard Beach via the new East River tunnel, the Atlantic Branch and the Fulton A line via the Old Rockaway Branch connection



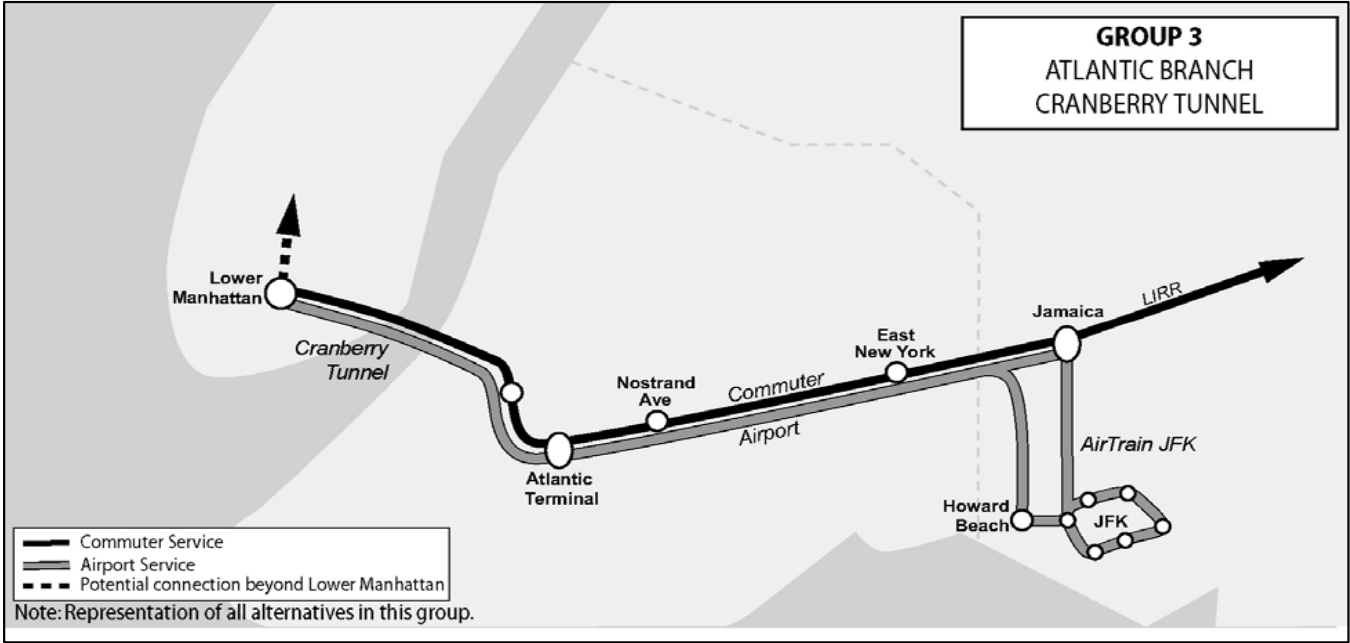
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AIRPORT VIA JAMAICA									
9	Montague Tunnel via Jamaica and 4th Ave Line	Both Airport and Commuter	None	Existing Fulton-Broadway/ Nassau Station (commuter) and New Station beneath Church St (airport)	Montague Tunnel	East New York; Nostrand Ave; Atlantic Ave, DeKalb Ave, Lawrence St and Court St.	Commuter transfer to/from LIRR; Airport one seat ride betw LM/JFK	None	<ul style="list-style-type: none"> • One seat airport service to LM from JFK on existing AirTrain right of way via Jamaica Station • One seat commuter service to LM from Jamaica Station • Airport and commuter services continue west from Jamaica Station via converted LIRR Atlantic Branch with commuter stops at East New York and Nostrand Ave and a new station stop for both services below Atlantic Terminal • Service continues via a connection to the 4th Ave/Nassau St Line M • Commuter service replaces M service west of the connection, making stops at DeKalb Ave, Lawrence St and Court St stations • Both services continue through the Montague St Tunnel • In LM the airport service connects to the Broadway Line Q/N/R and terminates at a station beneath Church St • Commuter service continues on the Nassau line and terminates at the Fulton-Broadway/Nassau Station

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12	Montague Tunnel via Jamaica - Nassau St Line Connection	Both Airport and Commuter	Proposed connection to Nassau Line at Fulton-Broadway/Nassau	Existing Fulton-Broadway/ Nassau-Nassau Line Station and Stations North (commuter) and New Station beneath Church St (airport)	Montague Tunnel	East New York; Nostrand Ave; Atlantic Ave, DeKalb Ave, Lawrence St and Court St.	Commuter transfer to/from LIRR; Airport one seat ride betw LM/JFK	None	<ul style="list-style-type: none">• One seat airport service to LM from JFK on existing AirTrain right of way via Jamaica Station• One seat commuter service to LM from Jamaica Station• Airport and commuter services continue west from Jamaica Station via converted LIRR Atlantic Branch, with commuter stops at East New York and Nostrand Ave and a new station stop for both services below Atlantic Terminal• Service continues with a connection to the 4th Ave/Nassau St Line M• Commuter service replaces existing M service west of the connection, making stops at DeKalb Ave, Lawrence St and Court St stations• Service then proceeds through the Montague Tunnel• In LM the airport service connects to the Broadway line N/Q/R and terminates at a new station beneath Church St• Commuter service continues on the Nassau Line J/M/Z to the Fulton-Broadway/Nassau Station and to Nassau Line stations north and into Queens
54	Montague and Cranberry Tunnels via Jamaica	Both Airport and Commuter	None	Existing Fulton-Broadway/ Nassau Station (commuter) and New station in vicinity of Fulton Transit Ctr and WTC (airport)	Cranberry and Montague Tunnels	East New York; Nostrand Ave; Atlantic Ave, DeKalb Ave, Lawrence St and Court St.	Commuter transfer to/from LIRR; Airport one seat ride betw LM/JFK	None	<ul style="list-style-type: none">• One seat airport service to LM from JFK on existing AirTrain right of way via Jamaica Station• One seat commuter service to LM from Jamaica Station• Airport and commuter services continue west from Jamaica Station via converted LIRR Atlantic Branch with commuter stops at East New York and Nostrand Ave and a new station stop for both services below Atlantic Terminal• Service continues to two new "branch" connections• The first is an airport branch connection to the Fulton St Line A with an additional stop at the existing Jay St/Borough Hall Station• The airport branch proceeds through the Cranberry Tunnel and in LM connects to the 8th Ave Line and terminates at a new station in the vicinity of Fulton Transit Ctr and WTC• The second branch is a commuter connection to the 4th Ave/Nassau St Line M• Commuter service replaces M service west of the connection, making stops at DeKalb Ave, Lawrence St and Court St stations• This branch continues through the Montague Tunnel• In LM commuter service continues on the Nassau St line and terminates at the Fulton-Broadway/Nassau Station• Due to Cranberry Tunnel capacity constraints (currently operating 27 TPH during peak), C trains are
AIRPORT VIA HOWARD BEACH									
10	Montague Tunnel - Split Service from Howard Beach and Jamaica	Both Airport and Commuter	None	Existing Fulton-Broadway/ Nassau Nassau Line Station and Stations North (commuter) and New Station beneath Church St (airport)	Montague Tunnel	East New York; Nostrand Ave; Atlantic Ave, DeKalb Ave, Lawrence St and Court St.	Commuter transfer to/from LIRR; Airport one seat ride betw LM/JFK	None	<ul style="list-style-type: none">• One seat airport service to LM from JFK on existing AirTrain right of way via Howard Beach• One seat commuter service to LM from Jamaica Station• Airport service continues west from Howard Beach via the Fulton Line A, with a connection via Old Rockaway Branch to converted LIRR Atlantic Branch in vicinity of Rockaway Blvd• Commuter service proceeds west from Jamaica on the LIRR Atlantic Branch, with commuter stops at East New York and Nostrand Ave and a new station stop below Atlantic Terminal, followed by a connection to the 4th Ave/Nassau St Line M• Commuter service replaces M service west of the connection, making stops at DeKalb Ave, Lawrence St and Court St stations• Both services continue through the Montague Tunnel• The airport service connects to the Broadway Line N/Q/R and terminates at a new station beneath Church St• Commuter service continues on the Nassau Line and terminates at the Fulton-Broadway/Nassau Station

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13	Montague Tunnel - Split Service from Howard Beach and Jamaica - Broadway Line Connection	Both Airport and Commuter	Proposed connection to Broadway Line at Whitehall St	Existing Broadway Line Whitehall Station and Stations North (commuter) and New Station beneath Church St (airport)	Montague Tunnel	East New York; Nostrand Ave; Atlantic Ave, DeKalb Ave, Lawrence St and Court St.	Commuter transfer to/from LIRR; Airport one seat ride betw LM/JFK	None	<ul style="list-style-type: none">• One seat airport service to LM from JFK on existing AirTrain right of way via Howard Beach• One seat commuter service to LM from Jamaica Station• Airport service continues west from Howard Beach via the Fulton Line A, with a connection via Old Rockaway Branch to converted LIRR Atlantic Branch in vicinity of Rockaway Blvd• Commuter service proceeds west from Jamaica on the LIRR Atlantic Branch• Commuter service stops at East New York and Nostrand Ave stations and both services stop at a new station below Atlantic Terminal, followed by a connection to the 4th Ave/Nassau St Line M• Commuter service replaces M service west of the connection, making stops at DeKalb Ave, Lawrence St and Court St stations• Both services continue through the Montague Tunnel and connect to the Broadway Line N/Q/R• Airport service terminates at a new station beneath Church St near the WTC• Commuter service continues on the Broadway Line serving Manhattan stations to a 57th St terminal
15	Montague Tunnel or Manhattan Bridge - Airport Service Only via Howard Beach	Airport Only	Possible Connection to Broadway Line	TBD	Montague or Manhattan Bridge	Atlantic Ave; DeKalb Ave	No commuter service; Airport one seat ride betw LM/JFK	None	<ul style="list-style-type: none">• One seat airport service to LM from JFK on existing AirTrain right of way via Howard Beach• No new commuter service to LM from Jamaica Station• Service connects to the Old Rockaway Branch and proceeds to Woodhaven Junction, where it connects to the LIRR's Atlantic Branch• The service then proceeds to Atlantic Terminal• At that point, a connection is made to the 4th Ave Line, east of the DeKalb Ave station• Trains can then use either the Montague Tunnel or the Manhattan Bridge to enter Manhattan• If the Montague Tunnel is used, trains can terminate along the Nassau St Line, or proceed uptown on the Broadway Line, sharing tracks with the LaGuardia service• Assuming the Manhattan Bridge is fully open, connections can be made via the bridge to the Broadway Line or the 6th Ave Line• Connections to the Rutgers Tunnel are also possible
115	Montague Tunnel Via "A" Diamond and H Train from Jamaica	Airport and Queens Commuter	A Line	TBD	Montague	Woodhaven Jct; Woodhaven Blvd; Ozone Park; East NY; Linden Plaza	Commuter transfer to/from LIRR ; Airport one seat ride betw LM/JFK	None	<ul style="list-style-type: none">• Reroute Far Rockaway A service to LM via Old Rockaway Line and Atlantic Branch via Montague Tunnel and Broadway Line (3 TPH)• Include Manhattan direct A service to Rockaway Park via Old Rockaway Branch and Atlantic Branch via Montague Tunnel (3 TPH) and eliminate S Service in Rockaway• AirTrain uses new track connection at Aqueduct Station for thru service to LM via Montague Tunnel (4 TPH)• New Montague A service reconnects with Eighth Ave Line through new connection between Cortlandt St and WTC Station• Lefferts Blvd A service and C service continue to proceed through Cranberry Tunnel• New H Line from Jamaica to Canal Street Station via the Atlantic Branch, Montague Tunnel and Nassau Line (10 TPH)

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116	Montague Tunnel Via "A" Diamond and H Train from Aqueduct-LIRR connection at Woodhaven Jct	Airport and Queens Commuter	A Line	TBD	Montague	Woodhaven Jct; Woodhaven Blvd; Ozone Park; East NY; Linden Plaza	Commuter transfer to/from LIRR ; Airport one seat ride betw LM/JFK	None	<ul style="list-style-type: none">• Reroute Far Rockaway A service to LM via Old Rockaway Branch and Atlantic Branch via Montague Tunnel and Broadway Line (3 TPH)• Include Manhattan direct A service to Rockaway Park via Old Rockaway Branch and Atlantic Branch via Montague Tunnel (3 TPH) and eliminate S Service in Rockaway• AirTrain uses new track connection at Aqueduct Station for thru service to LM via Montague Tunnel (4 TPH)• New Montague A service reconnects with 8th Ave Line through new connection between Cortlandt St and WTC Station• Lefferts Blvd A service and C service continue to proceed through Cranberry Tunnel• New H Line from Aqueduct Station to Canal Street Station via the Atlantic Branch, Montague Tunnel and Nassau Line (10 TPH)• LIRR service terminates at new Woodhaven Junction Station with walking transfer to H and A Lines to Atlantic Branch and LM
117	Montague Tunnel Via "A" Diamond and E Train from Jamaica	Airport and Queens Commuter	A and E Lines	TBD	Montague	Woodhaven Jct; Woodhaven Blvd; Ozone Park; East NY; Linden Plaza	Commuter transfer to/from LIRR ; Airport one seat ride betw LM/JFK	None	<ul style="list-style-type: none">• Reroute Far Rockaway A service to LM via Old Rockaway Branch and Atlantic Branch via Montague Tunnel and Broadway Line (3 TPH)• Include Manhattan direct A service to Rockaway Park via Old Rockaway Branch and Atlantic Branch via Montague Tunnel (3 TPH) and eliminate S Service in Rockaway• AirTrain uses new track connection at Aqueduct Station for thru service to LM via Montague Tunnel (4 TPH)• New Montague A service reconnects with 8th Ave Line through new connection between Cortlandt St and WTC Station• Lefferts Blvd A service and C service continue to proceed through Cranberry Tunnel• Reroute E train to proceed from Jamaica to Atlantic Branch, Montague Tunnel and Broadway Line to LM (10 TPH)
118	Montague Tunnel Via "A" Diamond and H Train from Jamaica-E Service on Fulton Line	Airport and Queens Commuter	A and E Lines	TBD	Montague	Woodhaven Jct; Woodhaven Blvd; Ozone Park; East NY; Linden Plaza	Commuter transfer to/from LIRR ; Airport one seat ride betw LM/JFK	None	<ul style="list-style-type: none">• Reroute Far Rockaway A service to LM via Old Rockaway Branch and Atlantic Branch via Montague Tunnel and Broadway Line (5 TPH)• Include Manhattan direct A service to Rockaway Park via Old Rockaway Branch and Atlantic Branch via Montague Tunnel (5 TPH) and eliminate S Service in Rockaway• AirTrain uses new track connection at Aqueduct Station for thru service to LM via Montague Tunnel (4 TPH)• New Montague A service reconnects with 8th Ave Line through new connection between Cortlandt St and WTC Station• Lefferts Blvd Fulton St A service thru Cranberry Tunnel is replaced by E service and C service continues to proceed through Cranberry Tunnel• New H Line from Jamaica to Canal Street Station via the Atlantic Branch, Montague Tunnel and Nassau Line (10 TPH)

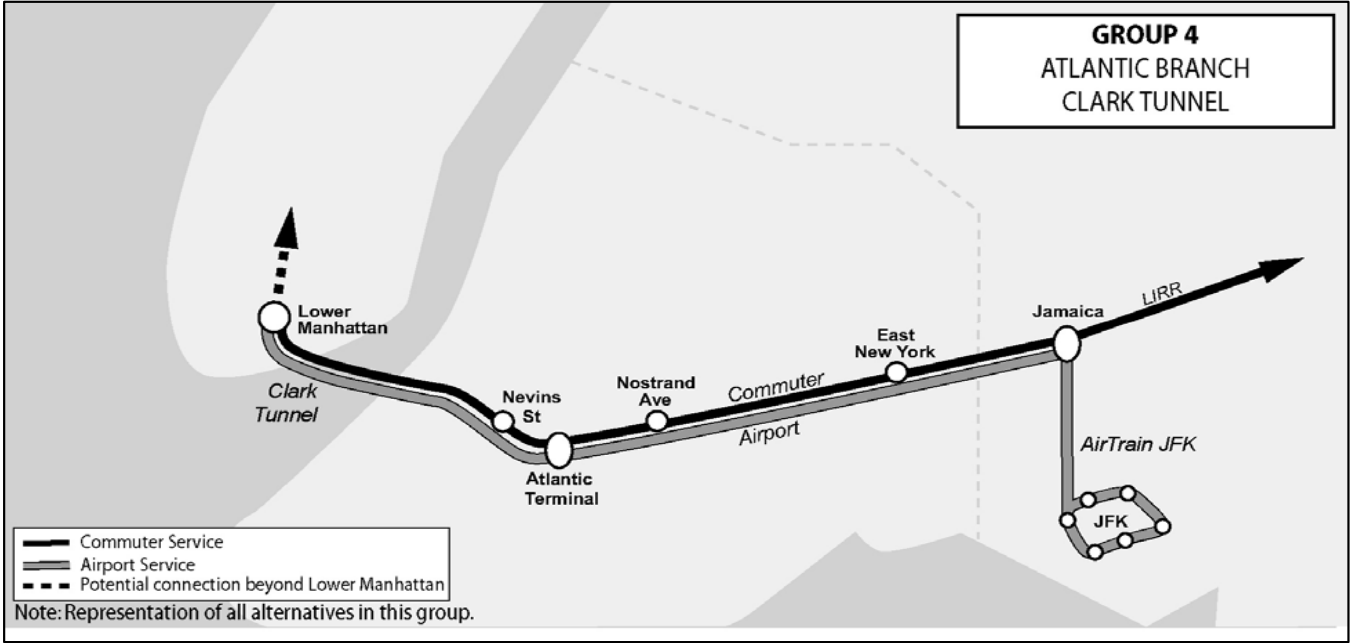
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AIRPORT TRANSFER AT JAMAICA									
11	Montague Tunnel - Commuter Service Only from Jamaica	Commuter Only	None	Existing Fulton-Broadway/ Nassau Station (commuter)	Montague Tunnel	East New York; Nostrand Ave; Atlantic Ave, DeKalb Ave, Lawrence St and Court St.	Commuter transfer to/from LIRR; Airport transfer to/from JFK	None	<ul style="list-style-type: none">• Two seat airport service to LM from JFK on existing AirTrain right of way via Jamaica Station• One seat commuter service to LM from Jamaica Station• Airport passengers transfer to new commuter service at Jamaica Station• Commuter service proceeds west from Jamaica Station via converted LIRR Atlantic Branch, with stops at East New York and Nostrand Ave and a new station stop below Atlantic Terminal• Service continues via a connection to the 4th Ave/Nassau St Line M• Commuter service replaces M service west of the connection, making stops at DeKalb Ave, Lawrence St and Court St stations and continues through Montague Tunnel• Commuter service continues on the Nassau J/M/Z line and terminates at the Fulton-Broadway/Nassau Station
30	Atlantic Branch Converted to Subway Service - BMT Connection	Commuter	TBD	TBD	Montague	TBD	Commuter transfer to/from LIRR; Airport transfer to/from JFK	None	<ul style="list-style-type: none">• Convert the LIRR Atlantic Branch to NYCT service and connect the Atlantic Branch to the BMT subway• This service would provide a limited-stop rapid transit service directly from the LIRR's Jamaica platforms
33	Montague Tunnel - BMT Connection	Commuter	TBD	TBD	Montague	TBD	Commuter transfer to/from LIRR; Airport transfer to/from JFK	None	<ul style="list-style-type: none">• Connect the LIRR's Atlantic Branch to the N/Q/R/M/J/Z subway lines, with the operation of special [hybrid] commuter rail trains through the Montague Tunnel to LM
39	Montague Tunnel - LM Loop Service	Commuter	None	TBD	Montague	TBD	Commuter transfer to/from LIRR; Airport transfer to/from JFK	None	<ul style="list-style-type: none">• Connect LIRR Atlantic Branch with NYCT 4th Ave Line M in Downtown Brooklyn for LIRR access to the Montague Tunnel• In LM provide a new loop rail service through the Financial District, using the Nassau St Line J/M/Z



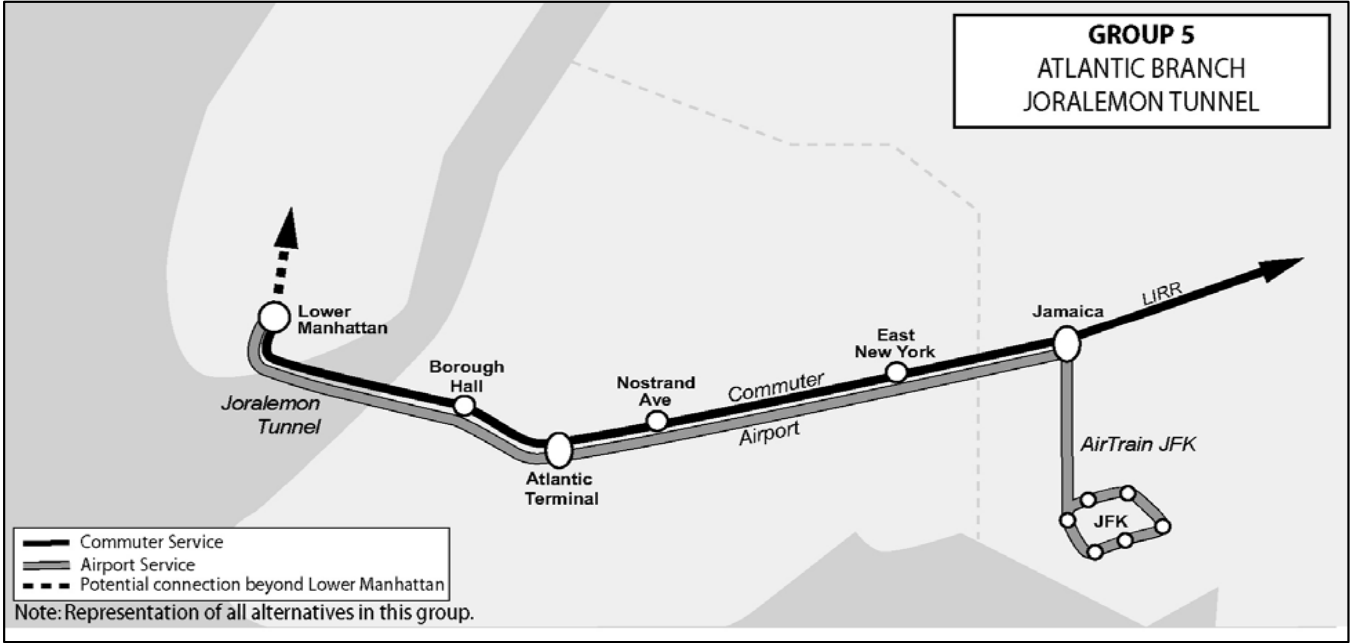
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AIRPORT VIA JAMAICA									
45	Cranberry Tunnel via Jamaica and Fulton Line	Both Airport and Commuter	None	Existing Fulton-Broadway/ Nassau station (commuter) and new station in vicinity of Fulton Transit Ctr and WTC (airport)	Cranberry Tunnel	East New York; Nostrand Ave; Atlantic Ave; Jay St/Borough Hall	Commuter transfer to/from LIRR; Airport one seat ride betw LM/JFK	None	<ul style="list-style-type: none"> • One seat airport service to LM from JFK on existing AirTrain right of way via Jamaica Station • One seat commuter service to LM from Jamaica Station • Airport and commuter services continue west from Jamaica Station via converted LIRR Atlantic Branch with commuter stops at East New York and Nostrand Ave and a new station stop for both services below Atlantic Terminal • Service continues to a new connection with the Fulton St Line A with an additional commuter stop at the existing Jay St /Borough Hall Station • Service proceeds through the Cranberry Tunnel and in LM connects to the 8th Ave Line • Commuter service terminates at the Fulton-Broadway/Nassau Station, while airport service terminates nearby, in the vicinity of the Fulton Transit Ctr and WTC • Due to Cranberry Tunnel capacity constraints (currently operating 27 TPH during peak), C trains are diverted to the Rutgers St Tunnel F service
47	Cranberry Tunnel via Jamaica and Euclid Ave Fulton Line Connection	Both Airport and Commuter	None	Existing Fulton-Broadway/ Nassau station (commuter) and new station in vicinity of Fulton Transit Ctr and WTC (airport)	Cranberry Tunnel	Jay St/Borough Hall	Commuter transfer to/from LIRR; Airport one seat ride betw LM/JFK	None	<ul style="list-style-type: none"> • One seat airport service to LM from JFK on existing AirTrain right of way via Jamaica Station • One seat commuter service to LM from Jamaica Station • Airport and commuter services continue west from Jamaica Station via converted LIRR Atlantic Branch to a new connection with the Fulton St Line A in the vicinity of the Euclid Av Station, followed by an additional commuter stop at the existing Jay St/Borough Hall Station • Service proceeds through the Cranberry Tunnel and in LM connects to the 8th Ave Line • Commuter service terminates at the Fulton-Broadway/Nassau Station, while airport service terminates nearby, in the vicinity of the Fulton Transit Ctr and WTC • Due to Cranberry Tunnel capacity constraints (currently operating 27 TPH during peak), C trains are diverted to the Rutgers St Tunnel F service

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59	Cranberry Tunnel via Jamaica and Fulton St Line	Both Airport and Commuter	None	Existing Fulton-Broadway /Nassau station (commuter) and new station in vicinity of Fulton Transit Ctr and WTC (airport)	Cranberry Tunnel	East New York; Nostrand Ave; Atlantic Ave; Jay St./Borough Hall	Commuter transfer to/from LIRR; Airport one seat ride betw LM/JFK	None	<ul style="list-style-type: none">• One seat airport service to LM from JFK on existing AirTrain right of way via Jamaica Station• One seat commuter service to LM from Jamaica Station• Airport and commuter services continue west from Jamaica Station via converted LIRR Atlantic Branch with commuter stops at East New York and Nostrand Ave and a new station stop for both services below Atlantic Terminal• Service continues to a new connection with the Fulton St Line A with an additional commuter stop at the existing Jay St/Borough Hall Station• Service proceeds through the Cranberry Tunnel and in LM connects to the 8th Ave Line• Commuter service terminates at the Fulton-Broadway/Nassau Station, while airport service terminates nearby, in the vicinity of the Fulton Transit Ctr and WTC• Due to Cranberry Tunnel capacity constraints (currently operating 27 TPH during peak), C trains are diverted to the Rutgers St Tunnel F service
AIRPORT VIA HOWARD BEACH (FULTON LINE)									
48	Cranberry Tunnel - Split Service from Howard Beach and from Jamaica - via Fulton Line	Both Airport and Commuter	None	Existing Fulton-Broadway/ Nassau station (commuter) and new station in vicinity of Fulton Transit Ctr and WTC (airport)	Cranberry Tunnel	East New York; Nostrand Ave; Atlantic Ave; Jay St./Borough Hall	Commuter transfer to/from LIRR; Airport one seat ride betw LM/JFK	None	<ul style="list-style-type: none">• One seat airport service to LM from JFK on existing AirTrain right of way via Howard Beach Station• One seat commuter service to LM from Jamaica Station• Airport service proceeds west from Howard Beach via the Fulton Line A through downtown Brooklyn• Commuter service proceeds west from Jamaica on the LIRR Atlantic Branch• Commuter service makes stops at East New York, Nostrand Av and a new station below Atlantic Terminal• Commuter service then continues to a new connection with the Fulton St Line A, with both an airport and commuter stop at the existing Jay St /Borough Hall Station• Both services proceed through the Cranberry Tunnel and in LM connect to the 8th Ave Line• Commuter service terminates at the Fulton-Broadway/Nassau Station, while airport service terminates nearby, in the vicinity of the Fulton Transit Ctr and WTC• Due to Cranberry Tunnel capacity constraints (currently operating 27 TPH during peak), C trains are diverted to the Rutgers St Tunnel F service
AIRPORT VIA HOWARD BEACH (OLD ROCKAWAY LINE)									
46	Cranberry Tunnel - Split Service from Howard Beach via Old Rockaway Branch and from Jamaica	Both Airport and Commuter	None	Existing Fulton-Broadway/ Nassau station (commuter) and new station in vicinity of Fulton Transit Ctr and WTC (airport)	Cranberry Tunnel	East New York; Nostrand Ave; Atlantic Ave; Jay St/Borough Hall	Commuter transfer to/from LIRR; Airport one seat ride betw LM/JFK	None	<ul style="list-style-type: none">• One seat airport service to LM from JFK on existing AirTrain right of way via Howard Beach Station• One seat commuter service to LM from Jamaica Station. Airport service proceeds west from Howard Beach via the Fulton Line A with a connection via Old Rockaway Branch to converted LIRR Atlantic Branch in vicinity of Rockaway Blvd• Commuter service proceeds west from Jamaica on the LIRR Atlantic Branch• Commuter service makes stops at East New York and Nostrand Av and both services stop at a new station below Atlantic Terminal• Service then continues to a new connection with the Fulton St Line A, with an additional commuter stop at the existing Jay St/Borough Hall Station• Service proceeds through the Cranberry Tunnel and in LM connects to the 8th Ave Line• Commuter service terminates at the Fulton-Broadway/Nassau Station, while airport service terminates nearby, in the vicinity of the Fulton Transit Ctr and WTC• Due to Cranberry Tunnel capacity constraints (currently operating 27 TPH during peak), C trains are diverted to the Rutgers St Tunnel F service

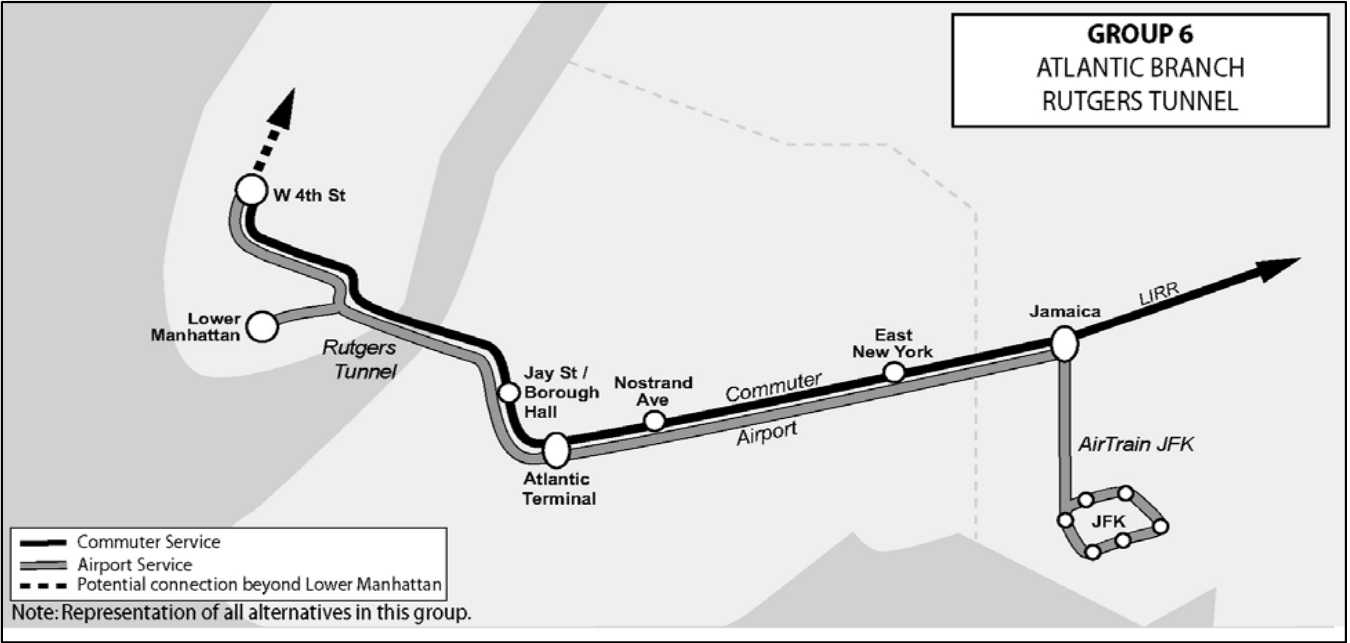
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AIRPORT TRANSFER AT JAMAICA									
40	Cranberry Tunnel via Fulton Line	Commuter	A Line	TBD	Cranberry	TBD	Commuter transfer to/from LIRR; Airport transfer to/from JFK	None	<ul style="list-style-type: none">• Connect LIRR Atlantic Branch with NYCT Fulton St Line A in East New York to provide new “through running” LIRR service to Downtown Brooklyn• Proceed to LM via the Cranberry Tunnel• Use the 8th Ave and 6th Ave Lines
49	Cranberry Tunnel - Commuter Service only from Jamaica via Fulton Line	Commuter Only	None	Existing Fulton-Broadway/ Nassau station (commuter)	Cranberry Tunnel	East New York; Nostrand Ave; Atlantic Ave; Jay St,/Borough Hall	Commuter transfer to/from LIRR; Airport transfer to/from JFK	None	<ul style="list-style-type: none">• Two seat airport service to LM from JFK on existing AirTrain right of way via Jamaica Station• One seat commuter service to LM from Jamaica Station• Airport passengers transfer to new commuter service at Jamaica Station• Commuter service continues west from Jamaica Station via converted LIRR Atlantic Branch with stops at East New York, Nostrand Av and a new station below Atlantic Terminal• Service continues to a new connection with the Fulton St Line A, followed by an additional stop at the existing Jay St/Borough Hall Station• Service proceeds through the Cranberry Tunnel and in LM connects to the 8th Ave Line• Commuter service terminates at the Fulton-Broadway/Nassau Station• Due to Cranberry Tunnel capacity constraints (currently operating 27 TPH during peak), C trains are diverted to the Rutgers St Tunnel F service



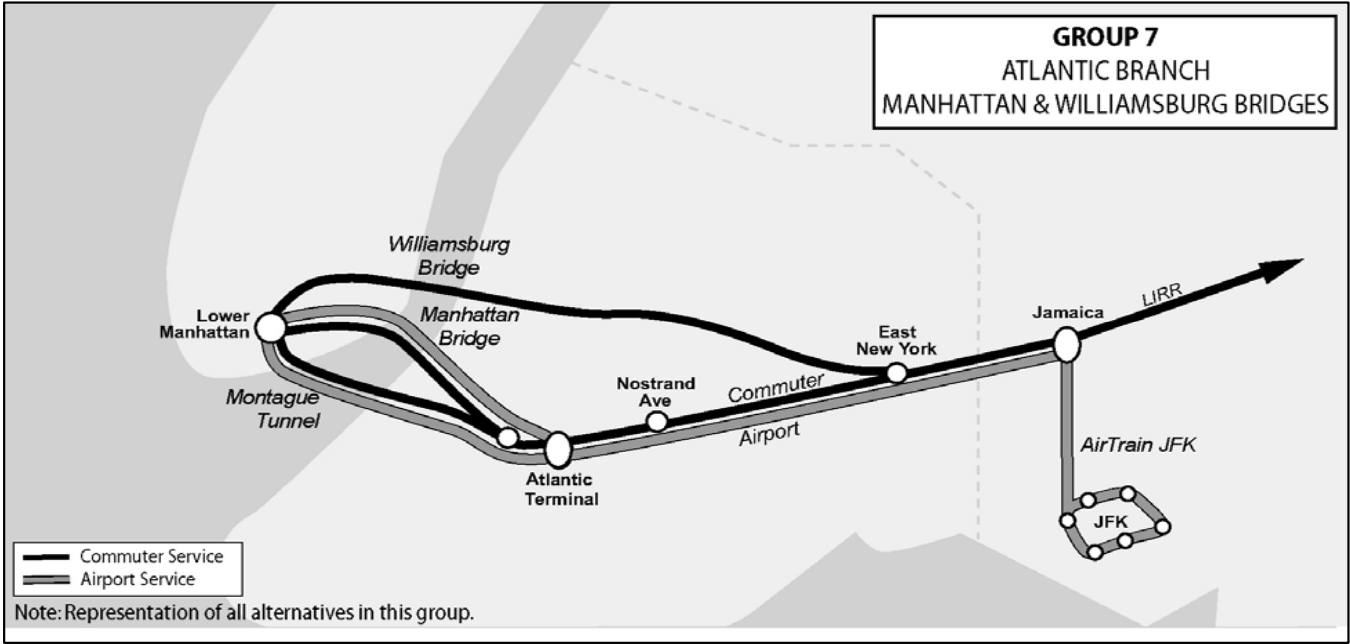
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60	Clark Tunnel via Jamaica and 7th Ave Line	Both Airport and Commuter	None	Existing Fulton-Broadway/ Nassau station (commuter) and new station in vicinity of Fulton Transit Ctr and WTC (airport)	Clark Street Tunnel	East New York; Nostrand Ave; Atlantic Ave; Nevins Ave	Commuter transfer to/from LIRR; Airport one seat ride betw LM/JFK	None	<ul style="list-style-type: none"> • One seat airport service to LM from JFK on existing AirTrain right of way via Jamaica Station • One seat commuter service to LM from Jamaica Station • Airport and commuter services continue west from Jamaica Station via converted LIRR Atlantic Branch with commuter stops at East New York and Nostrand Ave and a new station stop for both services below Atlantic Terminal • Service continues to a new connection to the 7th Av 2/3, with an additional commuter stop at the existing Nevins St Station • Service proceeds through the Clark Tunnel • In LM service continues on the 7th Ave Line • Commuter service terminates at the Fulton-Broadway/Nassau Station, while airport service terminates nearby, in the vicinity of the Fulton Transit Ctr and WTC



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25	Atlantic Terminal Express Subway Service to Wall St	Commuter	TBD	Wall St	Joralemon or Clark Tunnel	TBD	TBD	None	<ul style="list-style-type: none"> Express service from Atlantic Terminal with Wall St as the first stop
56	Joralemon Tunnel via Jamaica	Both Airport and Commuter	None	Existing Fulton-Broadway/ Nassau station (commuter) and new station in vicinity of Fulton Transit Ctr and WTC (airport)	Joralemon Tunnel	East New York; Nostrand Ave; Atlantic Ave; Borough Hall	Commuter transfer to/from LIRR; Airport one seat ride betw LM/JFK	None	<ul style="list-style-type: none"> One seat airport service to LM from JFK on existing AirTrain right of way via Jamaica Station One seat commuter service to LM from Jamaica Station Airport and commuter services continue west from Jamaica Station via converted LIRR Atlantic Branch with commuter stops at East New York and Nostrand Ave and a new station stop for both services below Atlantic Terminal Service continues to a new connection with the Borough Hall Line 4/5, with a commuter stop at the existing Borough Hall Station Service proceeds through the Joralemon Tunnel and in LM connects to the Lexington Ave Line Commuter service terminates at the Fulton-Broadway/Nassau Station, while airport service terminates nearby, in the vicinity of the Fulton Transit Ctr and WTC
79	Joralemon Tunnel - LIRR service	Commuter	None	Existing Fulton St	Joralemon	TBD	TBD	TBD	<ul style="list-style-type: none"> LIRR service is extended from Atlantic Terminal to LM via the Joralemon Tunnel and terminates at Fulton St 4 Line trains become a local shuttle in Brooklyn and switch at a siding at Franklin Av In Manhattan 4 service terminates at Brooklyn Bridge The tunnel between the Fulton-Nassau/Broadway St Station and Brooklyn Bridge Station would be used for cleaning train service only

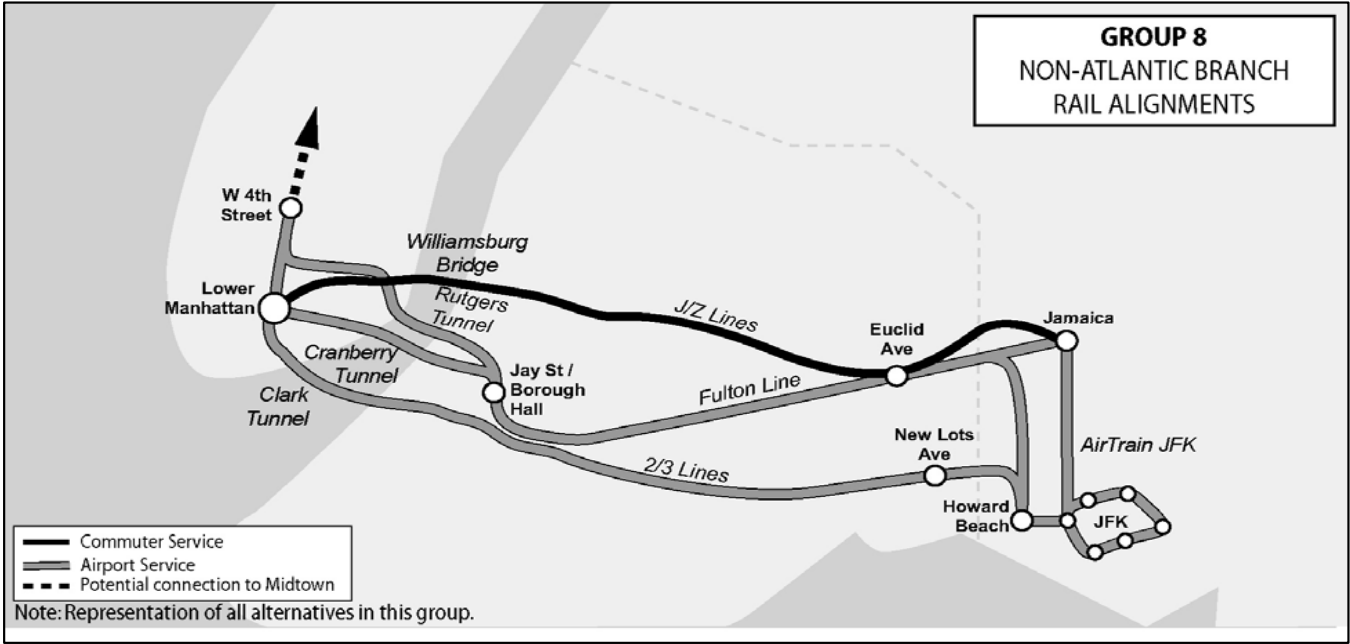


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57	Rutgers Tunnel via Jamaica	Both Airport and Commuter	None	Existing Fulton-Broadway/ Nassau station (commuter) and new station in vicinity of Fulton Transit Ctr and WTC (airport)	Rutgers Street Tunnel	East New York; Nostrand Ave; Atlantic Ave; Jay St./Borough Hall	Commuter transfer to/from LIRR; Airport one seat ride betw LM/JFK	None	<ul style="list-style-type: none">• One seat airport service to LM from JFK on existing AirTrain right of way via Jamaica Station• One seat commuter service to LM from Jamaica Station• Airport and commuter services continue west from Jamaica Station via converted LIRR Atlantic Branch with commuter stops at East New York and Nostrand Ave and a new station stop for both services below Atlantic Terminal• Service continues to a new connection to the Culver Line F, with a commuter stop at the existing Jay St/Borough Hall Station• Service proceeds through the Rutgers Tunnel• In LM a new tunnel is constructed to connect to the Fulton-Broadway/Nassau Station, where commuter service terminates• Airport service terminates nearby, in the vicinity of the Fulton Transit Ctr and WTC
58	Rutgers Tunnel - Commuter Service only from Jamaica	Commuter Only	None	Existing Fulton-Broadway/ Nassau station (commuter)	Rutgers Street Tunnel	East New York; Nostrand Ave; Atlantic Ave; Jay St./Borough Hall	Commuter transfer to/from LIRR; Airport transfer to/from JFK	None	<ul style="list-style-type: none">• Two seat airport service to LM from JFK on existing AirTrain right of way via Jamaica Station• One seat commuter service to LM from Jamaica Station• Airport passengers transfer to new commuter service at Jamaica Station• Commuter service continues west from Jamaica Station via converted LIRR Atlantic Branch with commuter stops at East New York and Nostrand Ave and a new station stop for both services below Atlantic Terminal• Service continues to a new connection to the Culver Line F, with a stop at the existing Jay St/Borough Hall Station• Service proceeds through the Rutgers Tunnel• In LM a new tunnel is constructed to connect to the Fulton-Broadway/Nassau Station, where commuter service terminates



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MANHATTAN BRIDGE									
41	Existing Tunnel Westbound and Manhattan Bridge Eastbound - Nassau St Loop	Commuter	None	TBD	Manhattan Bridge/existing tunnels	TBD	TBD	None	<ul style="list-style-type: none"> Extend the Atlantic Branch from Atlantic Terminal west to connect to existing subway tunnels to LM and to a new "Nassau St Loop" The loop service returns east to Brooklyn via the Manhattan Bridge to the Atlantic Terminal
61	Manhattan Bridge via Jamaica	Both Airport and Commuter	None	New station in vicinity of Fulton Transit Center and WTC (airport and commuter)	Manhattan Bridge	East New York; Nostrand Ave; Atlantic Ave; DeKalb Ave	Commuter transfer to/from LIRR; Airport one seat ride betw LM/JFK	None	<ul style="list-style-type: none"> One seat airport service to LM from JFK on existing AirTrain right of way via Jamaica Station One seat commuter service to LM from Jamaica Station Airport and commuter services continue west from Jamaica Station via converted LIRR Atlantic Branch with commuter stops at East New York and Nostrand Ave and a new station stop for both services below Atlantic Terminal Service continues to a new connection to the Manhattan Bridge lines B/D/N/Q with a commuter stop at the existing DeKalb Ave Station Service proceeds over the Manhattan Bridge A new alignment is constructed in LM to allow service to terminate in the vicinity of the Fulton Transit Ctr and WTC
127	Montague Tunnel and Manhattan Bridge via Nassau St Loop	Both Airport and Commuter	None	Broad St, Fulton St, Chambers St	Montague Tunnel and Manhattan Bridge	TBD	TBD	None	<ul style="list-style-type: none"> Marry Atlantic Terminal with W train service rather than M train service JFK trains follow a one-way clockwise loop via Nassau St with stops at Broad St, Fulton St and Chambers Return to Brooklyn via Manhattan Bridge, sharing track with the Q and N
WILLIAMSBURG BRIDGE									

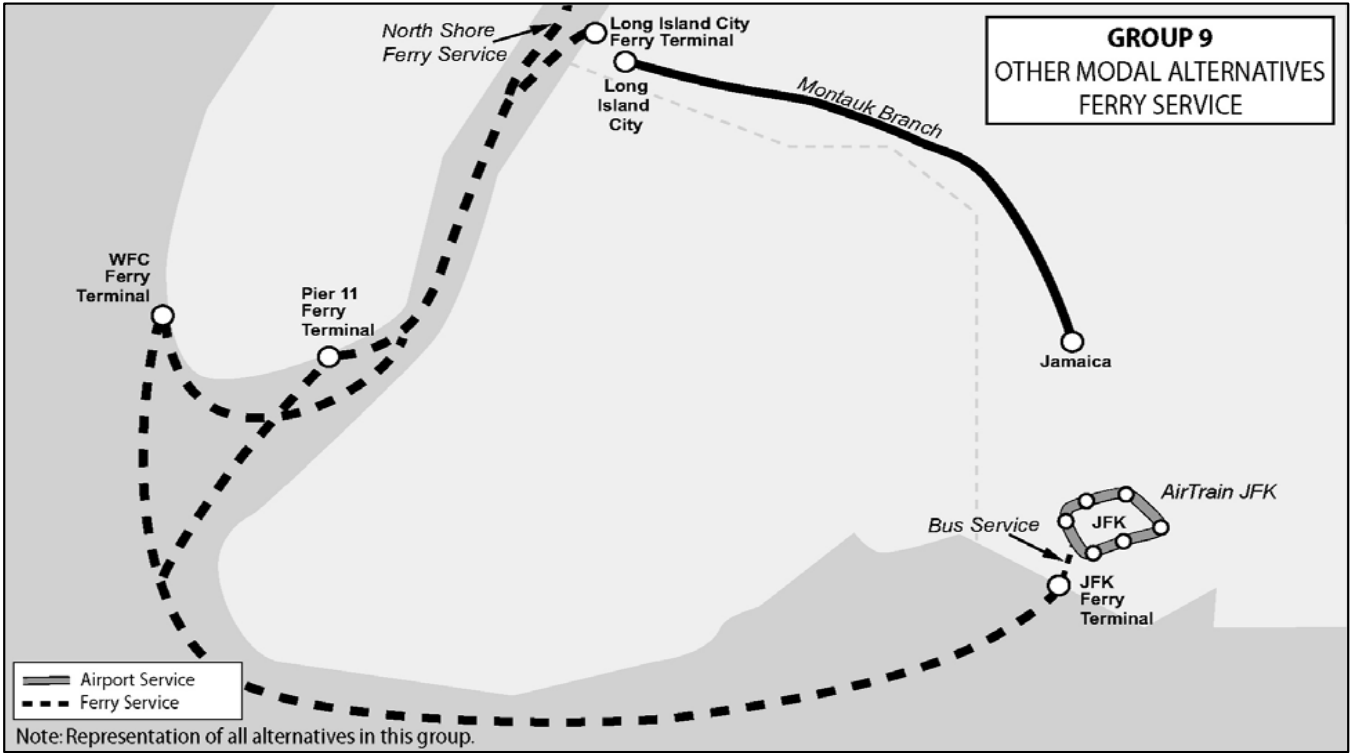
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62	Williamsburg Bridge - Connection to Z Service near East New York	Both Airport and Commuter	None	Existing Broad Street Station	Williamsburg Bridge	East New York; TBD	Commuter transfer to/from LIRR; Airport one seat ride betw LM/JFK	None	<ul style="list-style-type: none">• One seat airport service to LM from JFK on existing AirTrain right of way via Jamaica Station• One seat commuter service to LM from Jamaica Station• Airport and commuter services continue west from Jamaica Station via converted LIRR Atlantic Branch with commuter stop at East New York, where a connection is made to the Jamaica Express Line Z• The service makes skips stops, crosses the Williamsburg Bridge and terminates in LM at Broad St



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16	Cranberry or Rutgers Tunnel -Airport Service only via Howard Beach and Fulton Line	Airport Only	Proposed connection to 8th Ave Line with possible connection to 6th Ave Line	TBD	Montague or Cranberry	Jay St/Borough Hall; TBD	No commuter service; Airport one seat ride betw LM/JFK	None	<ul style="list-style-type: none"> One seat airport service to LM from JFK on existing AirTrain right of way via Howard Beach No new commuter service to LM from Jamaica Station Airport trains join existing Rockaway service and share the express track with A service, into the Jay St Station At this point service would either travel via the Cranberry St Tunnel and the 8th Ave Line or the Rutgers Tunnel into Manhattan to the W 4th St Station At W 4th St service would continue north via either the 8th Ave Line or 6th Ave Line A possible terminal on the 8th Ave Line is on the lower level of the 42nd St Station
17	Cranberry Tunnel - Airport Service only via Howard Beach and Fulton Line- Conduit Ave Connection	Airport Only	TBD	TBD	Cranberry	TBD	No commuter service; Airport one seat ride betw LM/JFK	TBD	<ul style="list-style-type: none"> One seat airport service to LM from JFK on existing AirTrain right of way via Howard Beach No new commuter service to LM from Jamaica Station Service via Howard Beach to a right-of-way along Conduit Ave, connecting to the Fulton St Line A through Cranberry Tunnel to LM
18	Clark Tunnel - Airport Service only via Howard Beach and 7th Ave Line Connection	Airport Only	TBD	TBD	Clark Tunnel	TBD	No commuter service; Airport one seat ride betw LM/JFK	None	<ul style="list-style-type: none"> One seat airport service to LM from JFK on existing AirTrain right of way via Howard Beach No new commuter service to LM from Jamaica Station Service would proceed from Howard Beach and connect to a new elevated structure to the 2/3 service at New Lots Ave The service continues on the 2/3 route through the Clark Tunnel into LM
43	Express JZ from Jamaica to LM	Commuter	None	TBD	Williamsburg Bridge	TBD	Commuter transfer to/from LIRR; Airport transfer to/from JFK	None	<ul style="list-style-type: none"> Realign the track between Norwood Ave and 75th St/Elderts Lane stations on the J/Z Straightening of the alignment could enable this line to accommodate express service between LM and Jamaica Station

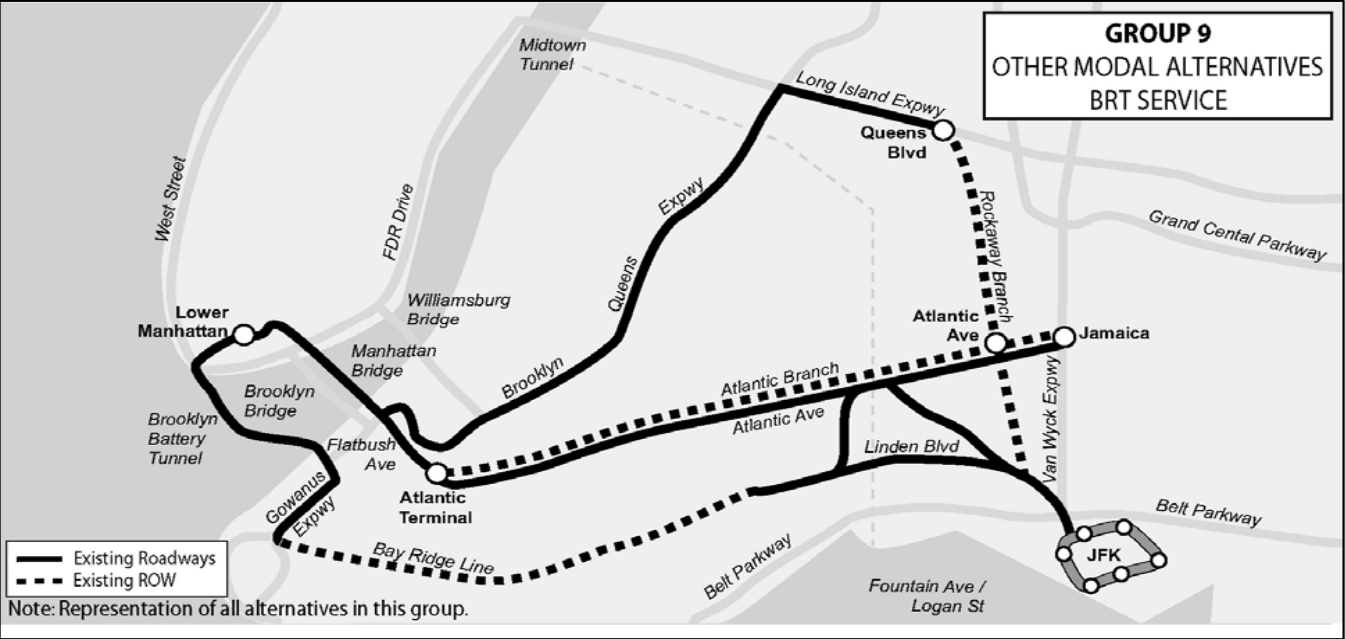
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50	Cranberry Tunnel - Airport Service via Howard Beach only - 8th Ave Line Connection	Airport Only	8th Ave Line	Existing Fulton-Broadway/ Nassau station (airport)	Cranberry Tunnel	Jay St Borough Hall; TBD	No commuter service; Airport one seat ride betw LM/JFK	None	<ul style="list-style-type: none">• One seat airport service to LM from JFK on existing AirTrain right of way via Howard Beach Station• No new commuter service to LM from Jamaica Station• Airport service continues west from Howard Beach Station via a new direct connection with the Fulton St Line A in the vicinity of the Euclid Av Station, followed by a stop at the existing Jay St/Borough Hall Station• Service proceeds through the Cranberry Tunnel and in LM connects to the 8th Ave Line, where it makes 8th Ave Line station stops beginning with Fulton-Broadway/Nassau• Due to Cranberry Tunnel capacity constraints (currently operating 27 TPH during peak), C trains are diverted to the Rutgers St Tunnel F service
51	Cranberry Tunnel - Airport Service only via Jamaica and Fulton Line	Airport Only	None	Existing Fulton-Broadway/ Nassau station (airport)	Cranberry Tunnel	Jay St/Borough Hall; TBD	No commuter service; Airport one seat ride betw LM/JFK	None	<ul style="list-style-type: none">• One seat airport service to LM from JFK on existing AirTrain right of way via Jamaica Station• No new commuter service to LM from Jamaica Station• Airport service continues west from Jamaica Station via a new direct connection with the Fulton St Line A in the vicinity of the Ozone Park/Lefferts Blvd Station, followed by a stop at the existing Jay St/Borough Hall Station• Airport service proceeds through the Cranberry Tunnel and in LM connects to the 8th Ave Line• The service terminates in the vicinity of the Fulton Transit Ctr and WTC• Due to Cranberry Tunnel capacity constraints (currently operating 27 TPH during peak), C trains are diverted to the Rutgers St Tunnel F service
52	Cranberry Tunnel - Airport Service only via Howard Beach -8th Ave Line to 6th Ave Line Connection	Airport Only	8th Ave Line	Existing Fulton-Broadway/ Nassau station (airport)	Cranberry Tunnel	Jay St/Borough Hall; TBD	No commuter service; Airport one seat ride betw LM/JFK	None	<ul style="list-style-type: none">• One seat airport service to LM from JFK on existing AirTrain right of way via Howard Beach Station• No new commuter service to LM from Jamaica Station• Airport service continues west from Howard Beach Station via a new direct connection with the Fulton St Line A in the vicinity of Euclid Ave, followed by a stop at the existing Jay St/Borough Hall Station• Service proceeds through the Cranberry Tunnel and in LM connects to the 8th Av Line A/C/E, where it makes 8th Ave Line station stops beginning with Fulton-Broadway/Nassau• At W4th St the service shifts to the 6th Ave Line B/D/F/V, terminating at 57th St• Due to Cranberry Tunnel capacity constraints (currently operating 27 TPH during peak), C trains are diverted to the Rutgers St Tunnel F service
53	Cranberry Tunnel - Airport Service only via Howard Beach to PA 42nd St. Bus Terminal	Airport Only	8th Ave Line to 42nd St PABT	Existing Fulton-Broadway/ Nassau station (airport)	Cranberry Tunnel	Jay St/Borough Hall; TBD	No commuter service; Airport one seat ride betw LM/JFK	None	<ul style="list-style-type: none">• One seat airport service to LM from JFK on existing AirTrain right of way via Howard Beach Station• No new commuter service to LM from Jamaica Station• Airport service continues west from Howard Beach Station via a new direct connection with the Fulton St Line A in the vicinity of the Euclid Av Station, followed by a stop at the existing Jay St/Borough Hall Station• Service proceeds through the Cranberry Tunnel and in LM connects to the 8th Ave Line A/C/E, where it makes 8th Ave Line station stops beginning with Fulton-Broadway/Nassau and terminates at the Port Authority Bus Terminal• Due to Cranberry Tunnel capacity constraints (currently operating 27 TPH during peak), C trains are diverted to the Rutgers St Tunnel F service

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55	Express Z Service from Jamaica	Commuter Only	None	Existing Broad Street Station	Williamsburg Bridge	TBD	Commuter transfer to/from LIRR; Airport transfer to/from JFK	None	<ul style="list-style-type: none">• Two seat airport service to LM from JFK on existing AirTrain right of way via Jamaica Station• One seat commuter service to LM from Jamaica Station• Both airport passengers and commuters transfer at Jamaica Station to Z service• The Z from Jamaica becomes a super express service, making skip stops and terminating at the existing Broad St Station
85	J Line Modifications	Commuter	None	Broad St	Williamsburg	TBD	Commuter transfer to/from LIRR ; Airport transfer to/from JFK	None	<ul style="list-style-type: none">• Express J Line service from Broadway Junction in East New York to Myrtle Ave, then express to Essex St in Manhattan• A new local line would start at either Atlantic Ave on the L line or at Broadway Junction to pick up the skipped local stops before going over the Williamsburg Bridge to Manhattan



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FERRY									
23	Ferry Service from North Shore of Long Island (Glen Cove) to LM	Commuter	None	Pier 11 and World Financial Ctr	Ferry	Long Island City	N/A	North Shore of Long Island	<ul style="list-style-type: none">Ferry service from Long Island's North Shore (Glen Cove) to two LM terminals (East and West Side)
38	Ferry Service from South Shore of Long Island (Long Beach) to LM	Commuter	None	Pier 11 and World Financial Ctr	Ferry	Furman Landing; TBD	Two commuter transfers to/from LIRR; Two airport transfers to/from JFK	None	<ul style="list-style-type: none">Ferry service from Long Island's South Shore (Long Beach) to two LM terminals (East and West sides)Service could be combined with JFK-South Shore ferry service
63	Ferry Airport Service Only from JFK to LM	Airport Only	None	Pier 11 and World Financial Ctr	Ferry	None	No commuter service; Airport transfer to/from JFK	None	<ul style="list-style-type: none">Two seat airport service to LM from JFKNo new commuter service to LM from Jamaica StationAirport passengers board a people mover or bus service from the airport terminals to a ferry dockHigh speed ferry service operates from JFK airport to Pier 11 and World Financial Center
119	Short Term LIRR Utilization Improvements and Ferry	Both Airport and Commuter	N/A	TBD	Ferry	TBD	TBD	N/A	<ul style="list-style-type: none">Develop waterborne link between JFK, Downtown Brooklyn and LMIncrease frequency of LIRR service between Jamaica and Atlantic TerminalPlan LM-JFK rail link with other LIRR improvements to enhance access between Long Island, Jamaica, Downtown Brooklyn and LM

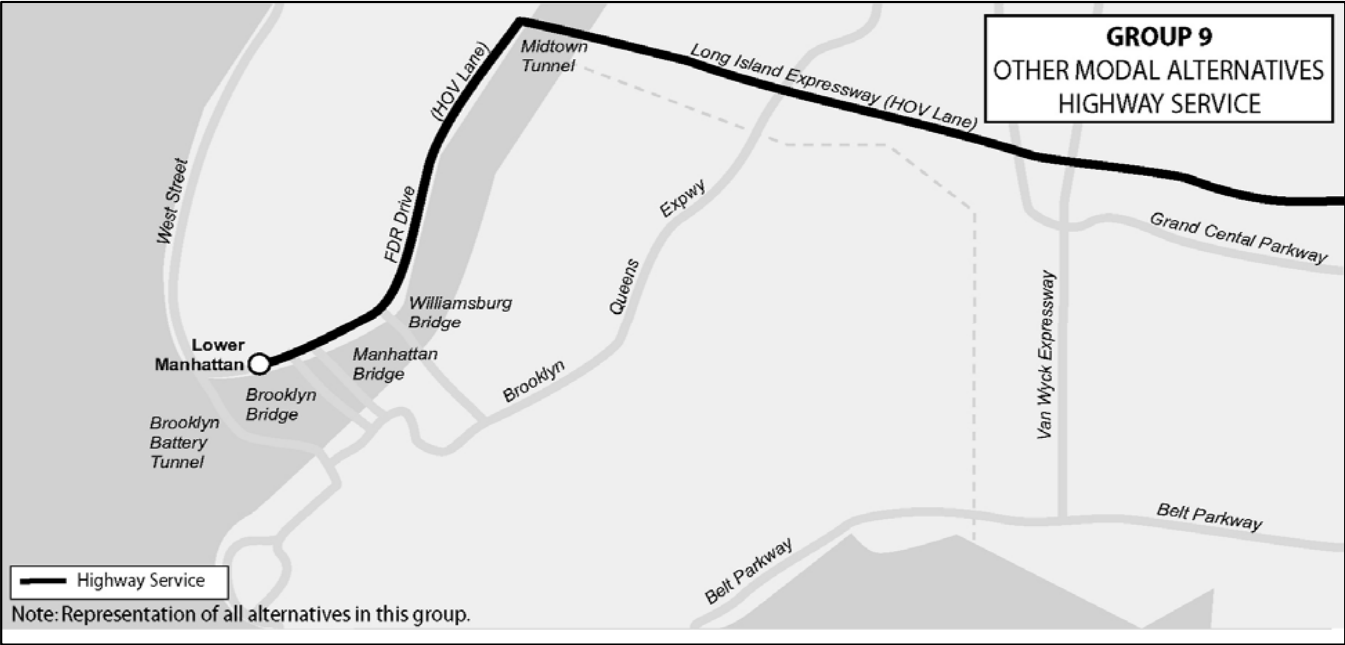
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133	Increase Ferry Service and Reinstitute Rockaway Connection	Both Airport and Commuter	TBD	TBD	Cranberry Tunnel and Ferry	TBD Brooklyn; Riis Park; Rockaway	Commuter N/A; Airport transfer to/from JFK	TBD	<ul style="list-style-type: none">• Increase regional ferry services, including JFK-Rockaway-Brooklyn-LM and Hoboken-LM-Riis Park-JFK• Reinstitute Old Rockaway Branch to connect Midtown Manhattan to JFK
134	Ferry Service from Long Island City to LM	Commuter	None	Pier 11 and World Financial Ctr	Ferry	Long Island City	N/A	None	<ul style="list-style-type: none">• Ferry service from Long Island City (transfer from LIRR Montauk Branch) to two LM terminals (East and West sides)• Connecting rail service to Jamaica (LIRR Montauk Branch)



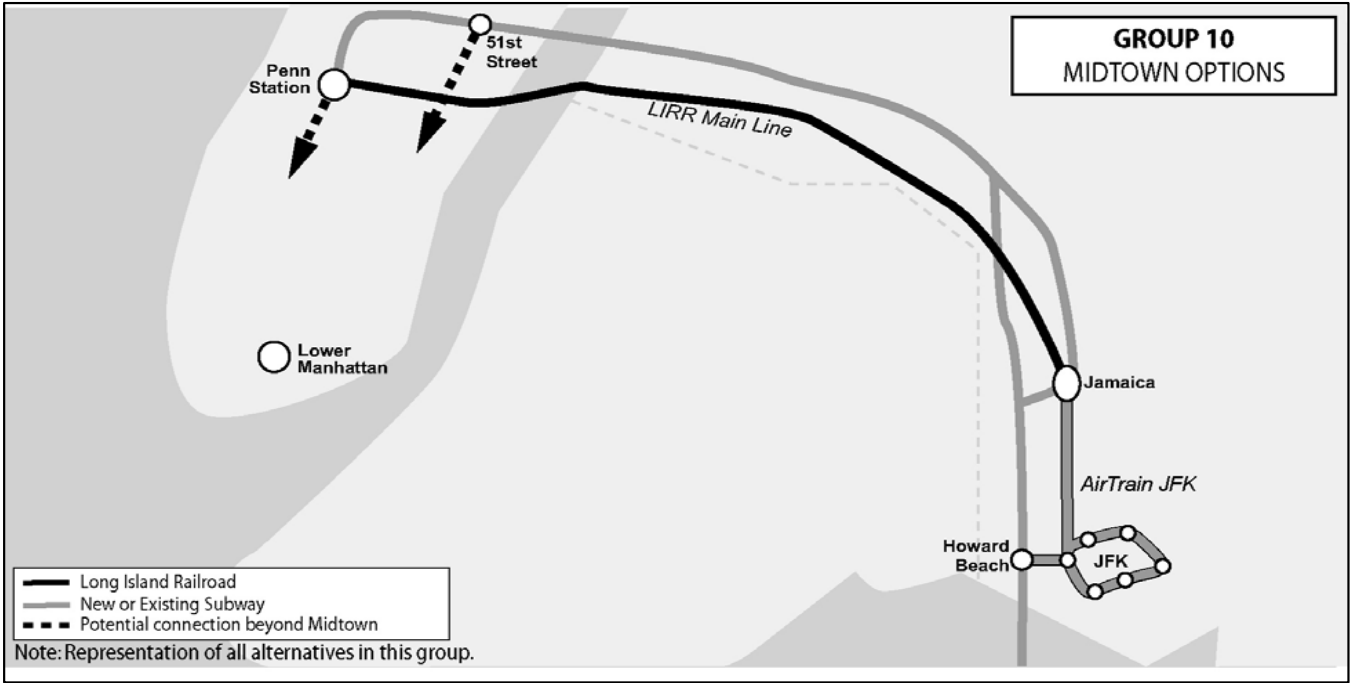
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BUS RAPID TRANSIT (BRT)									
102	BRT from Southeastern Brooklyn and Queens	Commuter	N/A	N/A	N/A	N/A	N/A	N/A	• The proposed new "LIRR Super Subway" should be served by a new Bus Rapid Transit network from auto-dependent southeastern Brooklyn and Queens
137	BRT via Existing Roadways and Manhattan Bridge	Both Airport and Commuter	BRT could continue to Midtown	Park Row, adjacent to Fulton Transit Center	Manhattan Bridge	Atlantic Ave • Lefferts Blvd • Woodhaven Blvd • Euclid/Crescent • Broadway Jct/East NY • Utica Ave • Nostrand Ave • Atlantic Terminal Adams St/Tillary St North/South Conduit Ave: • Cross Bay Blvd • Liberty/Euclid	Commuter transfer to/from LIRR; Airport one seat ride betw LM/JFK	None	• Two routes would be operated: Jamaica-Park Row and JFK-Park Row, using modern, "clean-power" BRT vehicles. Services would make all station stops, some with expresses (stop only at Atlantic Terminal, between Queens and Manhattan) • Additional downtown Brooklyn stops possible • Further analysis would identify BRT priority and design issues, including traffic signal priority or exclusive lanes, stations, ITS, branding, and guidance and propulsion issues • Commuter BRT route from Jamaica station to Atlantic Ave to Adams/Tillary streets to Flatbush Ave, over Manhattan Bridge to Bowery to Park Row, adjacent to Fulton Transit Center • Airport BRT route from JFK terminals or transfer at AirTrain JFK (Howard Beach) North Conduit Ave to Atlantic Ave to Flatbush Ave, over Manhattan Bridge to Bowery to Park Row • Airport service/route could be used for BRT to Rockaways • Commuter and Airport BRT services could extend to Midtown

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138	BRT via Existing Roadways and Atlantic Branch	Both Airport and Commuter	BRT could continue to Midtown	Park Row, adjacent to Fulton Transit Center	Manhattan Bridge	Atlantic Ave: <ul style="list-style-type: none">• Old Woodhaven Station• Broadway Jct/ East NY• Nostrand Ave• Atlantic Terminal• Adams/Tillary St North /South Conduit Ave• Cross Bay Blvd• Liberty/Euclid	Commuter transfer to/from LIRR; Airport one seat ride betw LM/JFK	None	<ul style="list-style-type: none">• Two routes would be operated, Jamaica-Park Row, using modern, "clean power" BRT vehicles. Services would make all station stops, with some expresses (stop only at Atlantic Terminal, between Queens and Manhattan)• Additional downtown Brooklyn stops possible• Further analysis would identify BRT priority and design issues, including traffic signal priority or exclusive lanes, stations, ITS, branding, and guidance and propulsion issues• Commuter BRT route from Jamaica station, via Atlantic Branch right-of-way (busway replacing existing rail on right-of-way), to Atlantic Ave to Adams/Tillary St to Flatbush Ave, over Manhattan Bridge to Bowery to Park Row, adacent to Fulton Transit Center• Airport BRT route from JFK terminals or transfer at AirTrain JFK (Howard Beach), North Conduit Ave to Atlantic Branch right-of-way (busway replacing existing rail on right-of-way) to Atlantic Ave to Adams/Tillary St, to Flatbush Ave, over Manhattan Bridge, to Bowery to Park Row, adjacent to Fulton Transit Center.• Airport service/route could be used for BRT to Rockaways• Commuter and airport BRT services could extend to Midtown
139	BRT via Existing Roadways and Bay Ridge Line	Both Airport and Commuter	BRT could continue to Midtown	Park Row, adjacent to Fulton Transit Center	Battery Tunnel	Atlantic Ave: <ul style="list-style-type: none">• Lefferts Blvd• Old Woodhaven Station• Euclid-Crescent North /South Conduit Ave• Cross Bay Blvd• Bay Ridge Line• TBD	Commuter transfer to/from LIRR; Airport one seat ride betw LM/JFK	None	<ul style="list-style-type: none">• Two routes would be operated, Jamaica-Broadway and JFK-Broadway using modern "clean-power" BRT vehicles. Service would make all station stops• Further analysis would identify BRT priority and design issues, including traffic signal priority or exclusive lanes, stations, ITS, branding, and guidance and propulsion issues• Commuter BRT route from Jamaica Station to Atlantic Ave to Fountain/Logan streets and Linden Blvd to new ramps to Bay Ridge Line to Gowanus Expwy to Battery Tunnel to West St to Broadway, adjacent to Fulton Transit Center• Airport BRT route from JFK terminals or transfer at AirTrain JFK (Howard Beach) to North Conduit Ave to Linden Blvd to new ramps to Bay Ridge Line to Gowanus Expressway to Battery Tunnel to West St, adjacent to Fulton Transit Center• Commuter and Airport BRT services could extend to Midtown• Airport service/route could be used for BRT to Rockaways
140	BRT via Existing Roadway and Rockaway Branch	Both Airport and Commuter	BRT could continue to Midtown	Park Row, adjacent to Fulton Transit Center	Manhattan Bridge	Rockaway Branch: <ul style="list-style-type: none">• aqueduct• Atlantic Ave• Myrtle Ave• Metropolitan Ave• Queens Blvd	Commuter transfer to/from LIRR; Airport one seat ride betw LM/JFK	None	<ul style="list-style-type: none">• Two routes would be operated, Jamaica-Broadway and JFK-Broadway using modern "clean-power" BRT vehicles. Service would make all station stops• Further analysis would identify BRT priority and design issues, including traffic signal priority or exclusive lanes, stations, ITS, branding, and guidance and propulsion issues• Commuter BRT route from Jamaica Station to Atlantic Ave to new ramps to Old Rockaway Connection to LIRR Main Line (adjacent to four in-service tracks) via new ramps to/from Long Island Expressway to Brooklyn-Queens Expressway, over Manhattan Bridge to Bowery to Park Row, adjacent to Fulton Transit Center• Airport BRT route from JFK terminal or transfer at AirTrain JFK (Howard Beach) to North Conduit Ave to new ramps to NYCT Rockaway Line (adjacent to two in-service tracks) to Old Rockaway Connection to LIRR Main Line (adjacent to four in-service tracks), via new ramps to/from Long Island Expressway to Brooklyn-Queens Expressway, over Manhattan Bridge to Bowery to Park Row, adjacent to Fulton Transit Center• Commuter and Airport services could extend to Midtown

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BUS									
135	JFK Airport Conventional Express Bus Service via Manhattan Bridge	Airport and Queens Commuter	None	Fulton Transit Center	Manhattan Bridge	TBD-One downtown Brooklyn stop	N/A	None	<ul style="list-style-type: none">• Frequent conventional express bus service from JFK terminals to Fulton Transit Center using existing roadways• Airport bus route from JFK terminals or transfer at AirTrain JFK (Howard Beach) to North Conduit Ave to Atlantic Ave to Flatbush, over Manhattan Bridge to Bowery to Park Row• Service makes at least one downtown Brooklyn stop• Airport bus service could extend to the Rockaways
136	JFK Airport Conventional Express Bus Service via Brooklyn Battery Tunnel	Airport and Queens Commuter	None	Fulton Transit Center	Battery Tunnel	None	N/A	None	<ul style="list-style-type: none">• Frequent conventional express bus service from JFK terminals to Fulton Transit Center using existing roadways• Bus service (via AirTrain connection from Lefferts Blvd or via B15 JFK terminal route) to Conduit Blvd to Linden Blvd corridor (follow Route 27) to Prospect Expressway to Gowanus Expressway to Brooklyn Battery Tunnel to Fulton Transit Center via Church St/Broadway• Airport bus service could extend to the Rockaways



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HIGHWAY									
20	HOV Access from Long Island	Passenger Car/Bus	N/A	NA	TBD	N/A	N/A	HOV to LI	<ul style="list-style-type: none">Direct HOV access for residents of Long Island who work in LM to reduce single occupancy auto travel



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78	New Subway K Train Service	Commuter (Queens) and Airport	Midtown TBD	N/A	59th St Tunnel	TBD	No commuter service; Airport transfer to/from JFK	Rockaway	<ul style="list-style-type: none"> A new K subway line beginning in Rockaway Park, Queens, replaces the Rockaway Park Shuttle S line and operates every 15 minutes The K Line would increase service from Howard Beach station to Manhattan, via the Old Rockaway Branch, connecting to the Queens Blvd Line for service to Manhattan with connections to the Lexington Ave Line and Second Ave Subway
81	Extend Archer Ave Subway	Commuter	N/A	N/A	N/A	TBD	N/A	Rockaway	<ul style="list-style-type: none"> Improve travel between eastern and southeastern Queens and Manhattan by extending the Archer Ave subway to SE Queens over the LIRR Far Rockaway/Atlantic Branch
84	Reactivate LIRR Old Rockaway Branch to Midtown	Airport	Midtown TBD	N/A	Existing LIRR	Ozone Park; Woodhaven; Brooklyn Manor; Parkside (Metropolitan Av); Rego Park	No commuter service; Airport one seat ride betw LM/JFK	None	<ul style="list-style-type: none"> Extend service from Howard Beach/JFK, along existing right-of-way and connect to LIRR Main Line for service to Midtown Reactivate stations at Ozone Park, Woodhaven, Brooklyn Manor, Parkside (Metropolitan Av), and Rego Park
92	AirTrain-LIRR Hybrid Vehicles	Both Airport and Commuter	Midtown TBD	TBD	LIRR East River Tunnel	TBD	No commuter service; Airport one seat ride betw LM/JFK	None	<ul style="list-style-type: none"> A cost effective method of connecting JFK Airport with Manhattan would utilize a hybrid vehicle that runs directly from the AirTrain tracks onto the LIRR Main Line
96	Van Wyck Blvd Line	Queens Commuter and Airport	Midtown TBD	Existing F Stations	N/A	TBD	TBD	None	<ul style="list-style-type: none"> Construction of a 2-track subway along Van Wyck Blvd From Hillside Ave to JFK Airport, Queens Assumes an F Line Connection at Van Wyck Blvd
141	Direct Rail Link between Penn Station and LM	Both Airport and Commuter	Proposed tunnel to Midtown/Penn Station	TBD	LIRR East River Tunnel	TBD	Commuter one seat ride; Airport transfer between LM/JFK	Service to LIRR Branches	<ul style="list-style-type: none"> Project should investigate all potential corridors that could provide improved commuter and airport access to LM Construct direct rail link (North Tunnel) from LM to Penn Station, allowing for one seat ride from Westchester, Long Island and Connecticut and with connection to Newark Airport as well as JFK

GROUP 11: ENHANCMENTS AND CHANGES TO EXISTING SYSTEM

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64	Cranberry Tunnel - Super A Express Service	Airport Only	None	Chamber St	Cranberry Tunnel	TBD	No commuter service; Airport transfer to/from JFK	None	<ul style="list-style-type: none">• Two seat airport service to LM from JFK on existing AirTrain right of way via Howard Beach Station• No new commuter service from Jamaica• AirTrain passengers continue present procedure and make connection with A train at Howard Beach; however, A service from Howard Beach becomes super express, making stops at Jay St/Borough Hall, Broadway/Nassau and terminating at Chambers St in LM
86	C Line Modifications	Queens Commuter and Airport	N/A	Existing Infrastructure	Cranberry	N/A	N/A	N/A	<ul style="list-style-type: none">• Extend C line from Euclid Ave to Lefferts Blvd• A trains that previously served this segment would serve the Rockaways after Rockaway Blvd
98	Reduced airport fare	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<ul style="list-style-type: none">• Staged improvement plan with immediate benefits including a reduced one-way combination fare and senior citizen fares to JFK
107	C Local Extensions and Regular A Service via Fulton Line and Cranberry Tunnel	Queens Commuter	N/A	Existing C Stations	Cranberry Tunnel	Linden Plaza	N/A	N/A	<ul style="list-style-type: none">• C local Fulton St service operates between both the Aqueduct station in Ozone Park and 168th St in Manhattan and also between a proposed Linden Plaza subway terminal station at the Pitkin yards in East NY, Brooklyn and 168th St (12 trains/hour thru Cranberry)
108	Old Rockaway Connection Improvements	Queens Commuter	N/A	N/A	N/A	Woodhaven Blvd; Woodhaven Jct	N/A	N/A	<ul style="list-style-type: none">• Reopened/refurbished Woodhaven Jct. Station at 97th St and 102nd St along Atlantic Ave• Proposed passenger stairwells and underpass near 97th St at the west end of the Woodhaven Station• Proposed passageway along the north side of Atlantic Ave between 96th St and 97th St connecting Woodhaven Jct station to Woodhaven Blvd station• Proposed Woodhaven Blvd Station located between 92nd St and 96th St along Atlantic Avenue• Proposed passenger stairwells and underpass located near 96th St at the east end of the Woodhaven Blvd station, connecting westbound and eastbound platforms
114	Institute Super A Service and Reopen Old Rockaway Line	Airport and Queens Commuter	A Line	TBD	TBD	TBD	Commuter transfer to/from LIRR ; Airport one seat ride betw LM/JFK	None	<ul style="list-style-type: none">• Institute a super A express train between Rockaways, Howard Beach/JFK and Lower Manhattan 24 hours per day• Skip most Brooklyn stops and go straight into Howard Beach and the Rockaways• Reopen Old Rockaway Branch for faster travel into Manhattan
122	Investigate Shared Platforms	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<ul style="list-style-type: none">• Evaluate ways to accommodate JFK trains at existing subway stations, including proof of payment

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124	Operate Atlantic Branch as a NYCT Shuttle	Commuter	N/A	N/A	N/A	TBD	Commuter transfer to/from LIRR; Airport transfer to/from JFK	None	<ul style="list-style-type: none">• If funding for the LM project is not forthcoming, operate Atlantic Branch as a NYCT Shuttle• Free transfer between subway and LIRR Zone 1 ticket holders• Increase frequency of trains, especially in off-peak
125	Fifth Track at Atlantic Terminal	Commuter	IRT 5 Line	Existing 4,5 stations	Joralemon	Atlantic Terminal; TBD	N/A	N/A	<ul style="list-style-type: none">• Construct fifth track to allow IRT 5 trains to terminate at Atlantic Terminal• IRT 5 trains would be available to return to Manhattan at frequency of every 8 to 10 minutes
126	JFK A Service to Chambers St	Airport	A Line	Fulton St, Chambers St.	Cranberry	TBD	Commuter transfer to/from LIRR ; Airport one seat ride betw LM/JFK	None	<ul style="list-style-type: none">• Run airport service from Howard Beach or JFK to Chambers St• Resignal Cranberry Tunnel, preferably with CBTC to allow for three to four TPH
129	Montague Tunnel and Cranberry Tunnel Super A Express Train with JFK Connection, K Service and E Extension	Airport and Queens Commuter	A Line and E Line	Whitehall	Montague and Cranberry Tunnels	Rockaways/TBD	Commuter transfer to/from LIRR ; Airport one seat ride betw LM/JFK	None	<ul style="list-style-type: none">• Institute Super A express service in short term• Construct connection between Federal Circle and Aqueduct Station for JFK AirTrain one seat ride via Old Rockaway Branch• Replace A service from the Rockaways with new express "K" service using Old Rockaway Branch to LM• LM connection back to 8th Ave Line to replace some A service in Manhattan• Eliminate Rockaway Shuttle• Extend the E train from LM to Jamaica for AirTrain and LIRR connection