



THE  
**NASSAU HUB STUDY**  
ALTERNATIVES ANALYSIS / ENVIRONMENTAL IMPACT STATEMENT



# The Nassau Hub Study TAC Presentation

January 17, 2012



NASSAU COUNTY EXECUTIVE  
**ED MANGANO**



NYS DOT



## Agenda

- 1) Study Update
- 2) Refined Long-List Alternatives Development
- 3) Refined Long-List Alternatives Definition
- 4) Refined Long-List Alternatives Screening
- 5) Assessment Of Mode Options
- 6) Recommendations
- 7) Next Steps



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## Study Update



## Previous Alternatives Evaluation

- 14 Preliminary Long-List Alternatives Evaluated During The Fatal Flaw Screening
- Alternatives 9-14 Were Fatally Flawed
- Alternatives 1-8 Were Advanced To Refined Long-List Alternatives



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## Refined Long-List Alternatives Development



## Refined Long-List Alternatives Development

- Alternatives Advanced to Long-List Were Further Defined / Developed With More Detail
- Items Considered Include:
  - Activity Center Connections
  - Land Use Compatibility
  - Stakeholder And Public Input
  - Infrastructure And Operational Characteristics
  - Ridership Potential



## Activity Center Connections

- Previously Identified Study Area Attractors And Generators (Activity Centers)
- Activity Centers Grouped By Relative Significance

Essential Attractors/Generators	Important Attractors/Generators	Additional Attractors/Generators
Downtown Mineola Mineola Intermodal Center Downtown Hempstead Hempstead Intermodal Center Roosevelt Field Mall Roosevelt Field Transit Center Nassau Community College Nassau Coliseum Nassau County Government Complex RXR Plaza Nassau University Medical Center (NuHealth)	Hofstra University Source Mall Museum Row Downtown Westbury Westbury LIRR Station	Downtown Garden City Garden City LIRR Station Mitchel Field County Park Eisenhower Park Country Life Press LIRR Station Carle Place LIRR Station



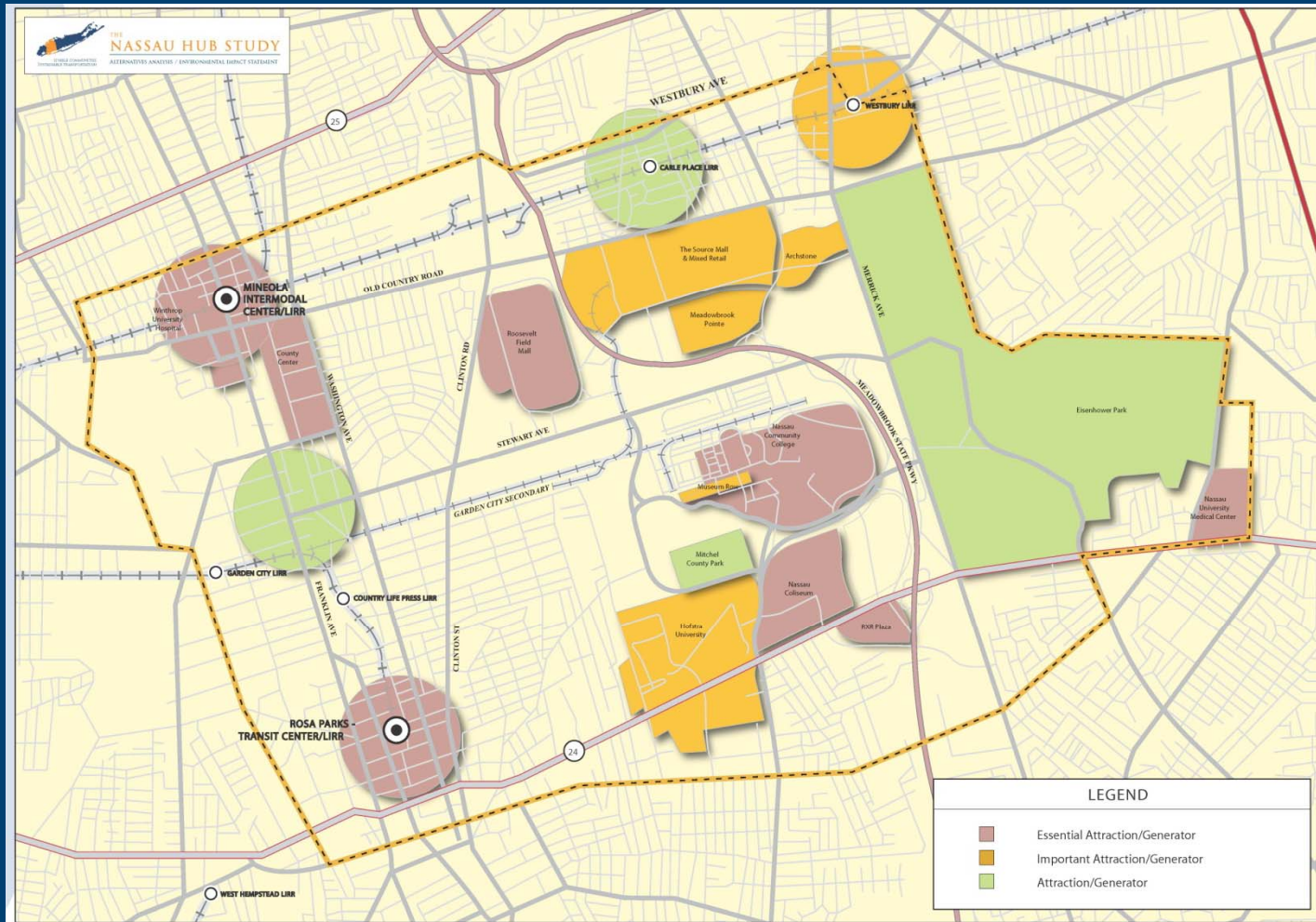
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## Activity Centers







## Land Use Compatibility

- Evaluated Existing Land Use Patterns
- Identified Redevelopment Opportunities
- Determined Potential Transit-Oriented-Development (TOD) Opportunities / Constraints



## Public Input

- Project Committees
- Project Website
- Public Meetings
- Origin / Destination Survey
- Stated Preference Survey
- One-on-One And Small Group Meetings





## Infrastructure And Operational Characteristics

- Developed Preliminary Operating Scenarios
  - Running Within Mixed Traffic
  - Running In Exclusive Right-Of-Way
- Determined Travel Times Between Key Activity Centers
- Number Of Transfers A Key Service Factor
- Identified Track / Lane Miles



## Ridership Potential

- Completed Comprehensive Origin / Destination And Stated Preference Surveys
- Developed Order-Of-Magnitude Ridership Estimates
- Ongoing Refinement Of Ridership Model For More Detailed Ridership Forecasting, Which Will Ultimately Lead To LPA Selection



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# Refined Long-List Alternatives Definition



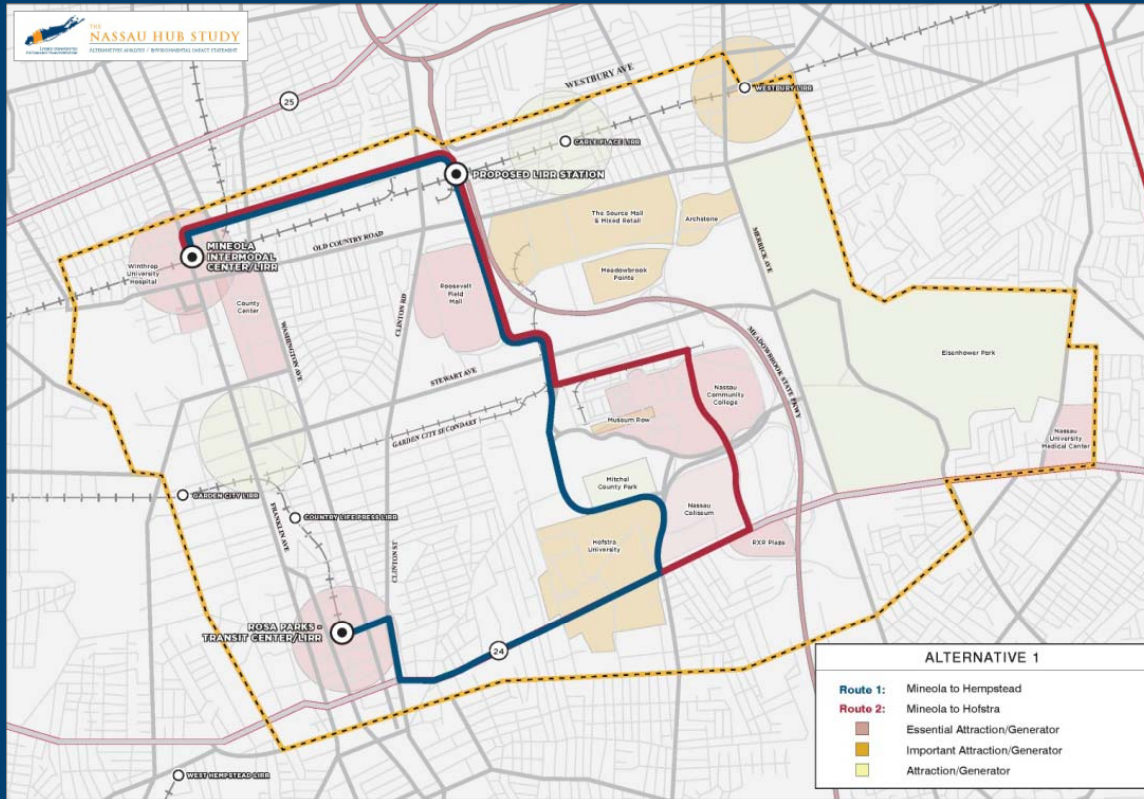
## Refined Long-List of Alternatives Definition

- Alternatives Were Defined For Evaluation Against Study Goals And Objectives
- Characteristics Include:
  - Travel Times
  - Daily Trips
  - Trips Per Track / Lane Mile
  - Trips Per Annual Vehicle Mile
  - Transit Connections / Activity Centers Served



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## Example Alternative

<b>Transit Connections</b>	Mineola Intermodal Center Potential New Transit Center
<b>Activity Centers Served</b>	Downtown Mineola Downtown Hempstead Roosevelt Field Mall Nassau Community College Nassau Coliseum Hofstra University

	Hempstead to Roosevelt Field Mall		Mineola to Coliseum		Potential Daily Trips 2035	Trips per Track/Lane Mile	Trips per Annual Vehicle Mile
	Travel Time	Transfers	Travel Time	Transfers			
<u>Mixed Flow</u>	14:17	0	14:48	0	4,600	285	1.90
<u>Exclusive ROW</u>	10:32	0	10:32	0	6,100	378	2.52



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## Refined Long-List Alternatives Screening





## Methodology

- Created A Series Of Matrices Based On Defined Alternatives
- Ranked Alternatives Based On:
  - Relative Strength Of Ridership
  - Track / Lane Mileage
  - Annual Vehicle Mileage
  - Travel Times
  - Number Of Transfers
  - Transit Connections And Activity Centers Served



## Screening Results

### Alternatives Identified For Advancement

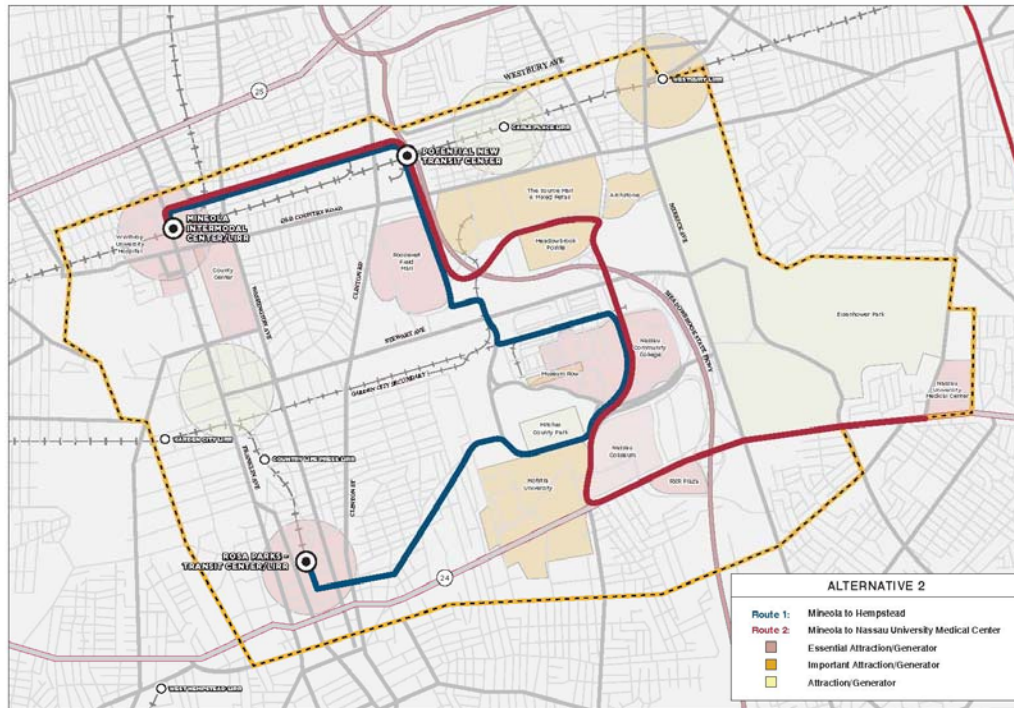
- Alternative 2
- Alternative 3

### Alternatives Identified For Elimination

- Alternative 1
- Alternative 4
- Alternative 5
- Alternative 6
- Alternative 7
- Alternative 8



## Alternative 2



<b>Transit Connections</b>	Mineola Intermodal Center Potential New Transit Center Hempstead Intermodal Center
<b>Activity Centers Served</b>	Downtown Mineola Downtown Hempstead Roosevelt Field Mall Nassau Community College Nassau Coliseum Hofstra University RXR Plaza Nassau University Medical Center Source Mall Museum Row Mitchel Field Eisenhower Park

	Hempstead to Roosevelt Field Mall		Mineola to Coliseum		Potential Daily Trips 2035	Trips per Track/Lane Mile	Trips per Annual Vehicle Mile
	Travel Time	Transfers	Travel Time	Transfers			
<u>Mixed Flow</u>	14:04	0	14:43	0	6,200	283	1.89
<u>Exclusive ROW</u>	10:30	0	10:47	0	8,100	370	2.47

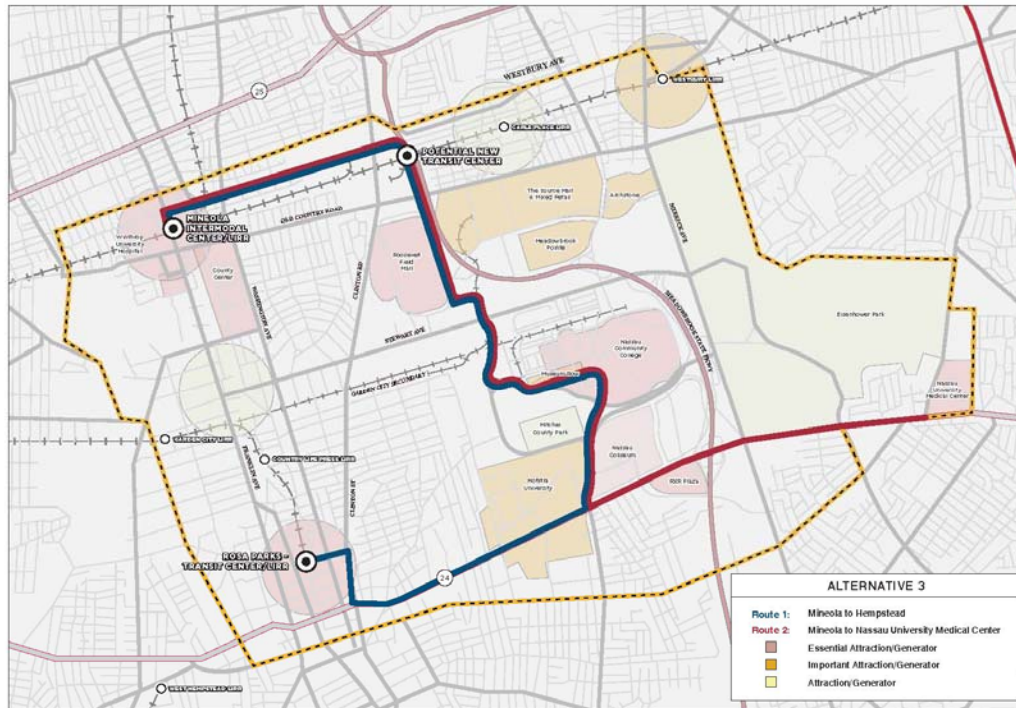


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### Alternative 3



<b>Transit Connections</b>	Mineola Intermodal Center Potential New Transit Center Hempstead Intermodal Center
<b>Activity Centers Served</b>	Downtown Mineola Downtown Hempstead Roosevelt Field Mall Nassau Community College Nassau Coliseum Hofstra University RXR Plaza Nassau University Medical Center Museum Row Eisenhower Park

	Hempstead to Roosevelt Field Mall		Mineola to Coliseum		Potential Daily Trips 2035	Trips per Track/Lane Mile	Trips per Annual Vehicle Mile
	Travel Time	Transfers	Travel Time	Transfers			
<u>Mixed Flow</u>	14:13	0	14:44	0	6,100	349	2.33
<u>Exclusive ROW</u>	10:19	0	10:18	0	8,000	458	3.05



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## Assessment of Mode Options



## Modal Transit Technologies

- Street Transit
  - Jitney
  - Circulator Bus
  - Conventional Bus
  - Trolley Bus
  - Commuter Bus
  - Modern Streetcar
- Semi-Separated Transit
  - Bus Rapid Transit (BRT)
  - Light Rail Transit (LRT)
- Separated Transit
  - Aerial Tram
  - Cable-Drawn Systems (CDS)
  - Automated Guideway Transit (AGT)
  - Commuter Rail
  - Heavy Rail



## Criteria for Transit Mode Screening

- Flexibility
- Capacity, Ridership
- Service Frequency
- Effect On Congestion
- Cost
- System Accessibility
- Compatibility
- Proven Technology
- Land Use Compatibility
- Environmental Impact



## Recommended Modes For Further Evaluation

- BRT
- Modern Streetcar







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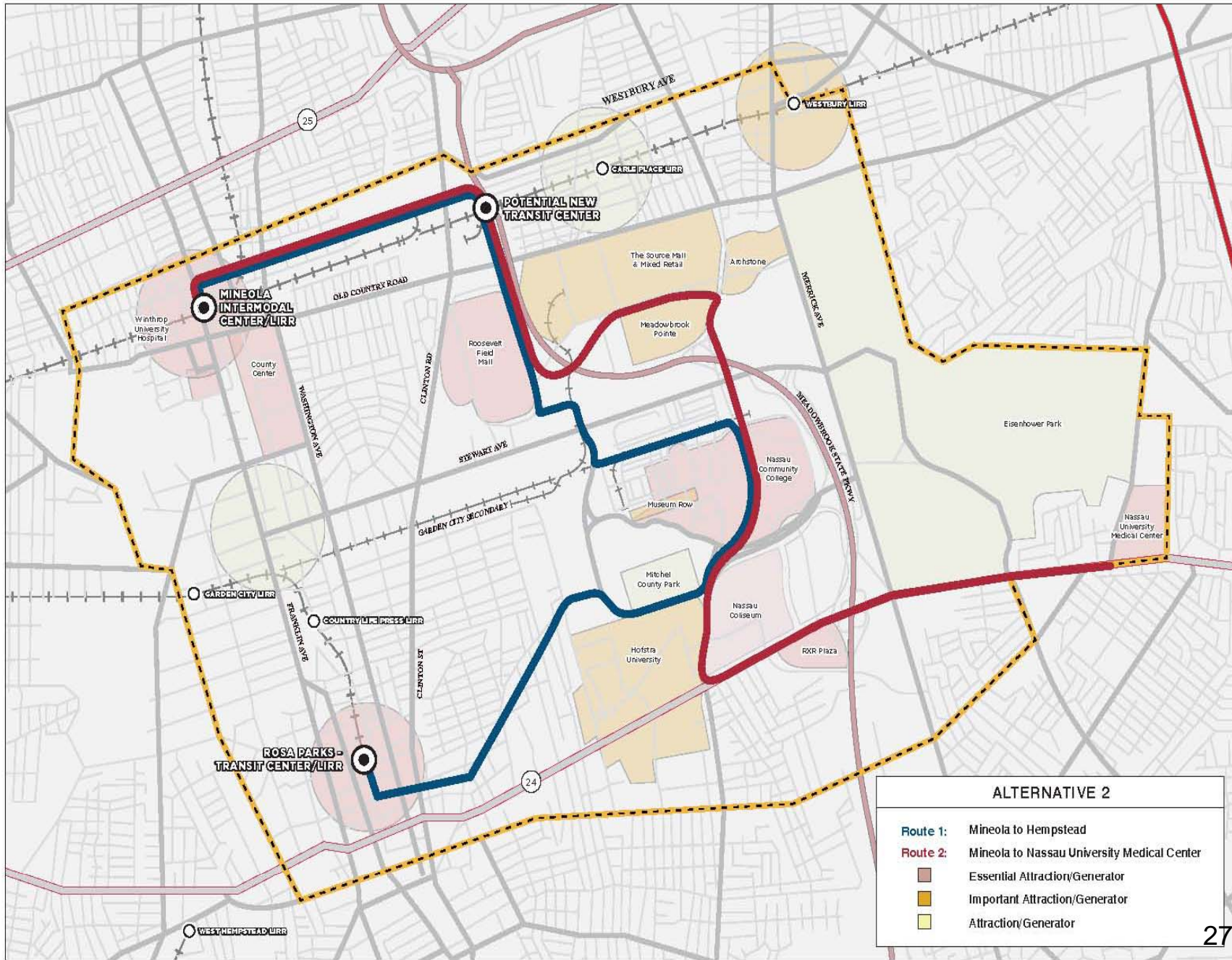


## Recommendations and Next Steps



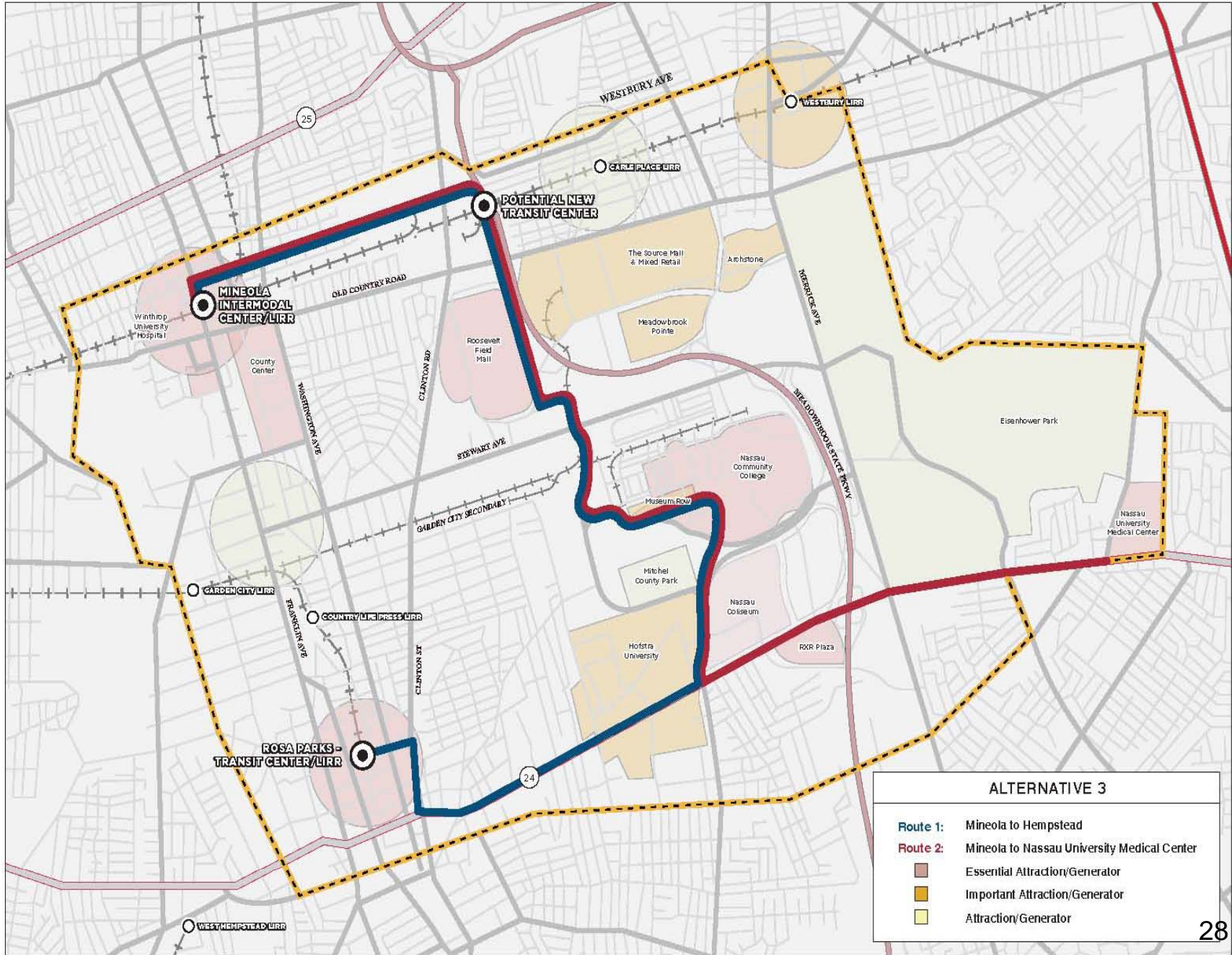
## Recommended Alternatives to be Advanced

Alternatives 2 and 3  
Each As BRT And / Or Modern Streetcar



**ALTERNATIVE 2**

- Route 1:** Mineola to Hempstead
- Route 2:** Mineola to Nassau University Medical Center
- Essential Attraction/Generator
- Important Attraction/Generator
- Attraction/Generator





## Next Steps

- Detailed Definition And Evaluation Of Alternatives
  - Refined Operating Plans
  - Cost
  - Ridership Forecasts
  - Environmental Considerations
  - Financial Considerations
  - Stakeholder And Public Input
- Selection of LPA



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## Q&A



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