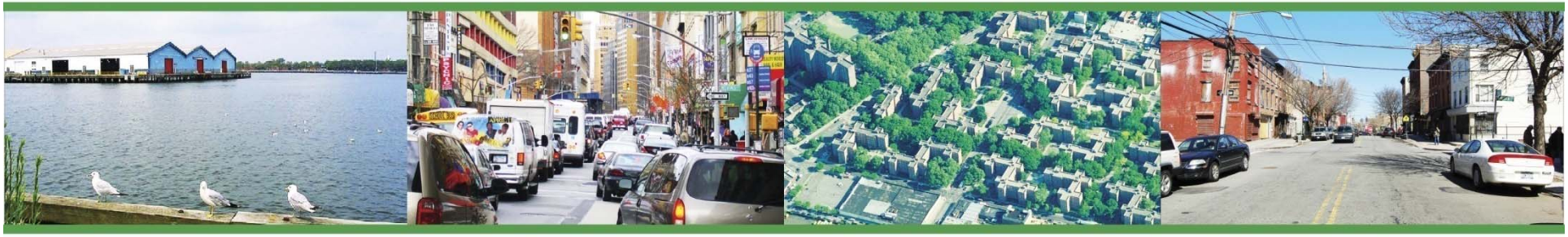
BROOKLYN STREETCAR
FEASIBILITY STUDY



Presentation to Community Advisory Committee

December 13th, 2010 – CAC Meeting #2

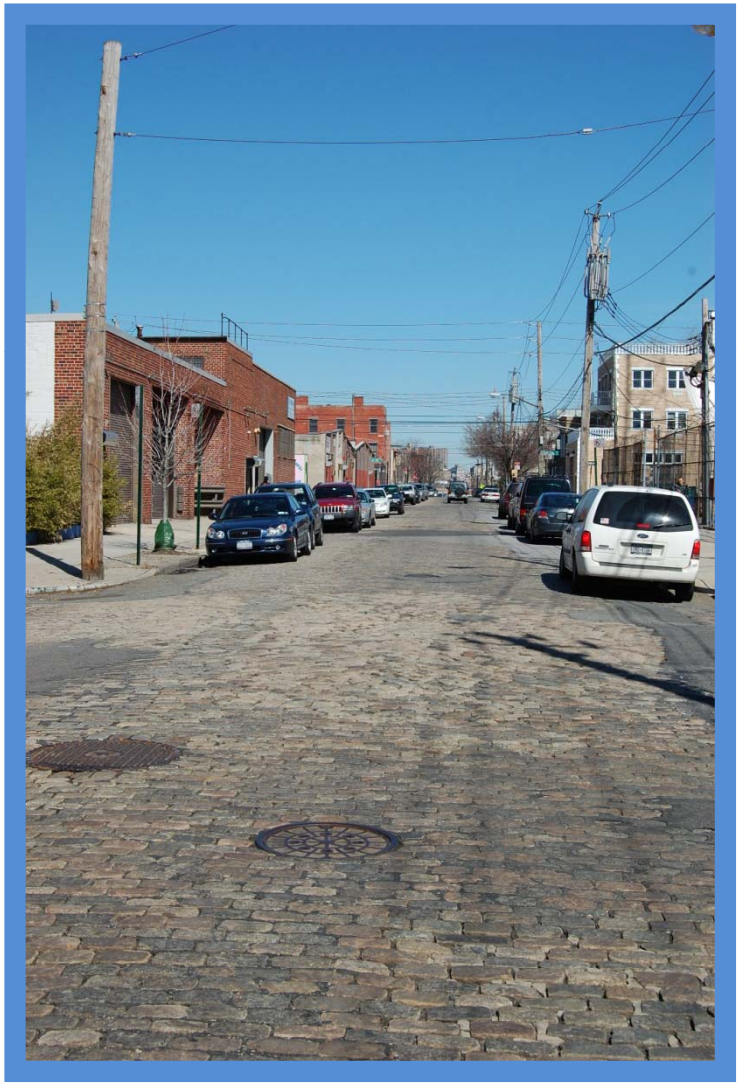
URS

NYC
Michael R. Bloomberg
Mayor

NEW YORK CITY DOT
Janette Sadik-Khan
Commissioner

Agenda

- Existing Conditions Summary
- Transit Demand Analysis Summary
- Case Studies Summary
- Route Alignments
- Discussion
- Next Steps



Study Purpose

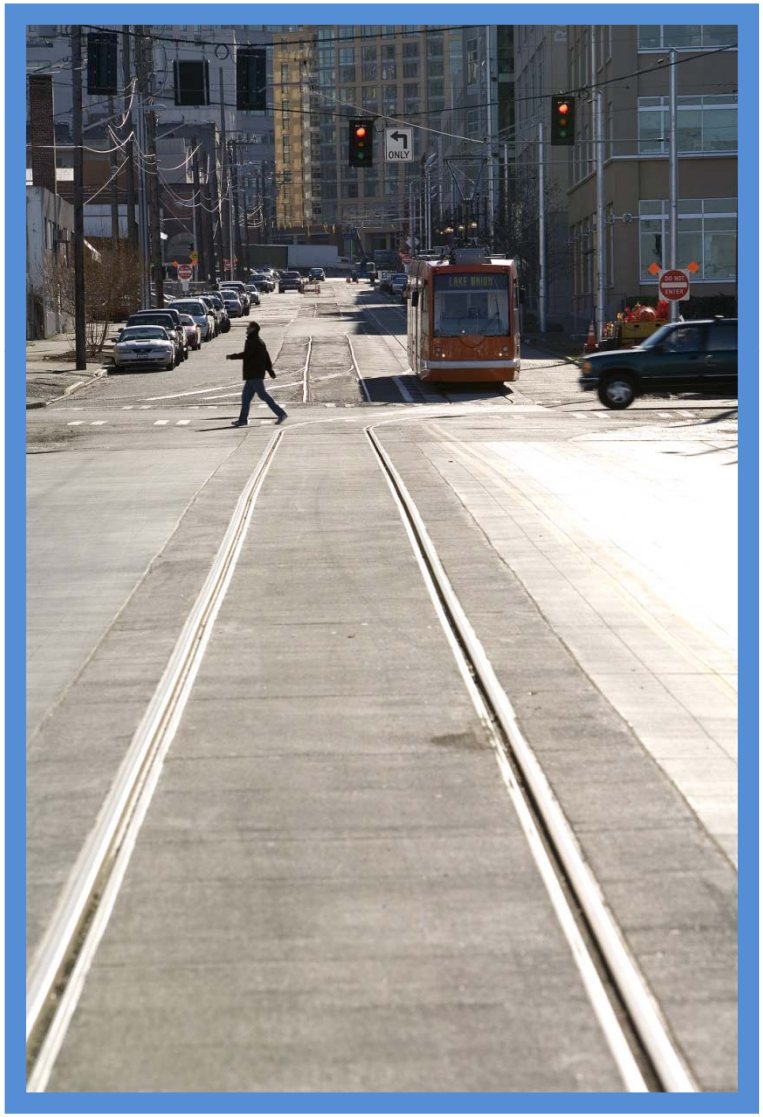
- Determine the Feasibility of a Streetcar Linking Red Hook with Surrounding Areas.

Goals

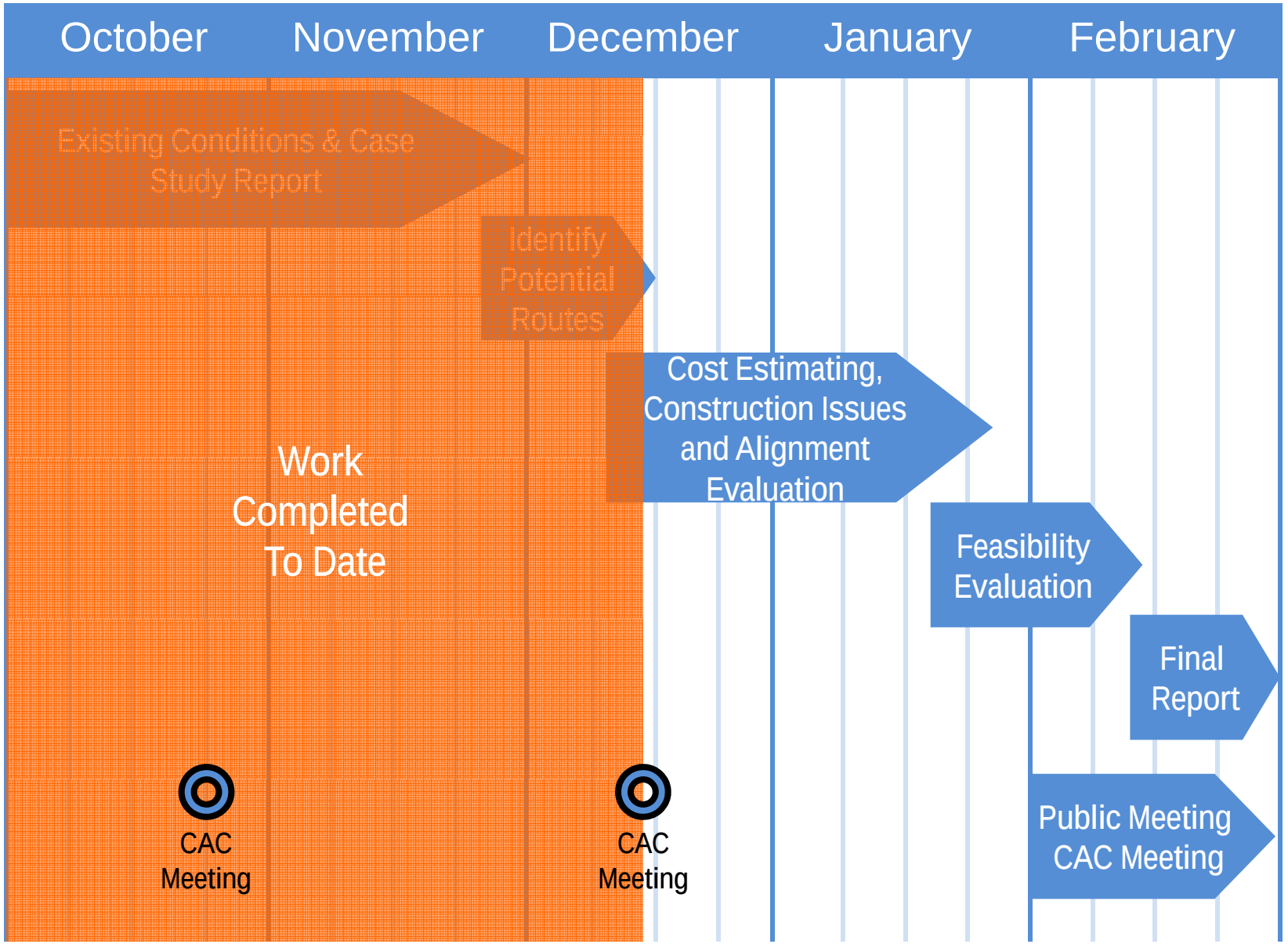
- Identify potential alignments.
- Identify unit costs, and potential impacts (e.g. construction, utilities, traffic).
- Determine the feasibility of a streetcar in the focus area with connections to the larger study area.

Scope of Study

- Learn from experience of other streetcar systems
- Project transit demand in Red Hook
- Identify potential streetcar routes
- Estimate costs and identify issues for feasibility of streetcar



Schedule


October
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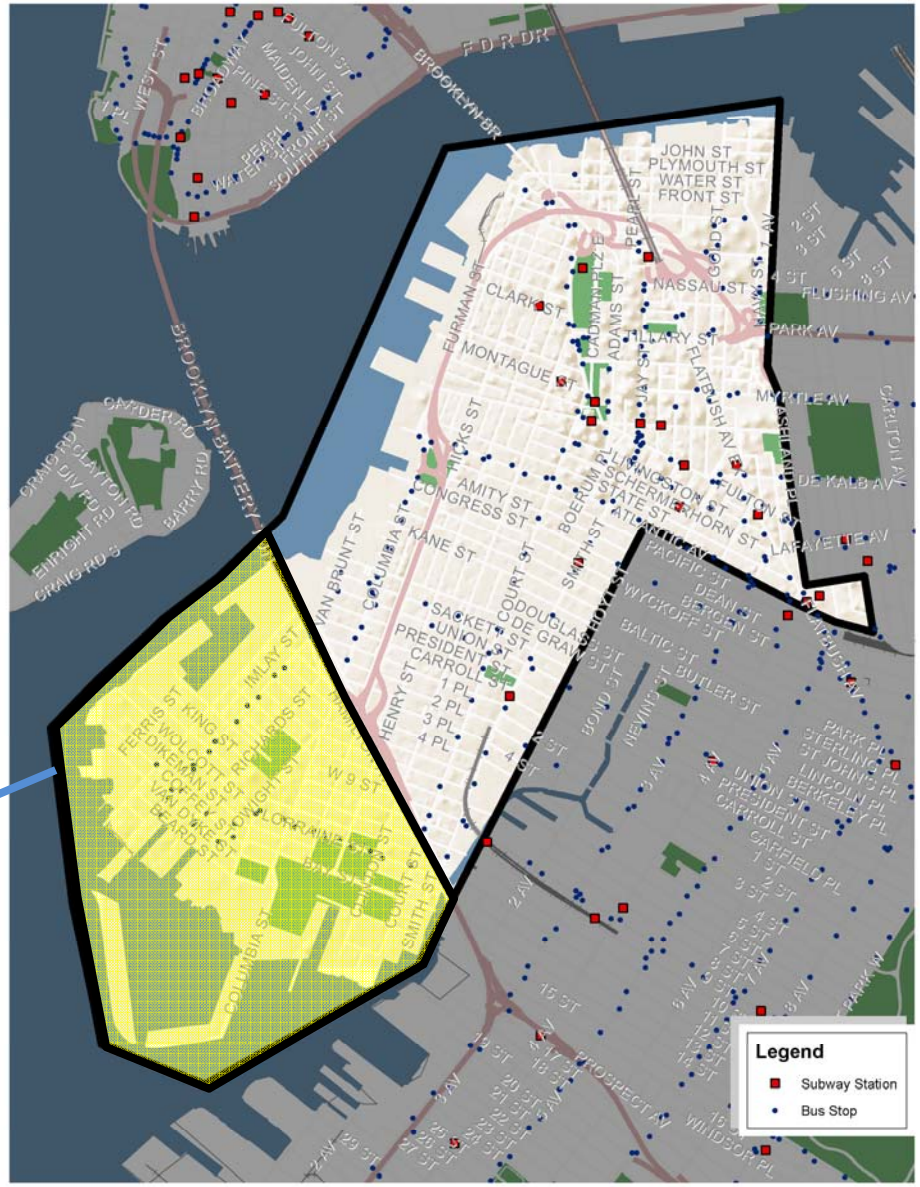
Existing Conditions & Case Study Report
Identify Potential Routes
Cost Estimating, Construction Issues and Alignment Evaluation
Feasibility Evaluation
Final Report
Public Meeting
CAC Meeting
Work Completed To Date
CAC Meeting
CAC Meeting

Study Area



Red Hook / Focus Area

Existing Conditions

Focus Area Demographics

- Population
  - 50% Decline from Peak in 1950
  - 4.7% Increase from 2000 to 2010 (est.)
- Relatively Low Employment Density (Compared to Study Area)
- Low Median Household Income
- 47% Hispanic/Latino
- 41% Black / African American

LOCATION	PERSONS PER SQUARE MILE			PERCENT CHANGE	
	1990	2000	2010	1990-2000	2000-2010
Focus Area	12,497.55	11,770.47	12,323.56	-5.8%	4.7%
Study Area	27,280.67	29,541.97	31,880.37	8.3%	7.9%

Sources: **1990 and 2000 data from U.S. Bureau of the Census; 2010 estimates from ESRI.**

LOCATION	EMPLOYEES PER SQUARE MILE
	2000
Focus Area	6,274.13
Study Area	49,071.97

Sources: **2000 data from U.S. Bureau of the Census**

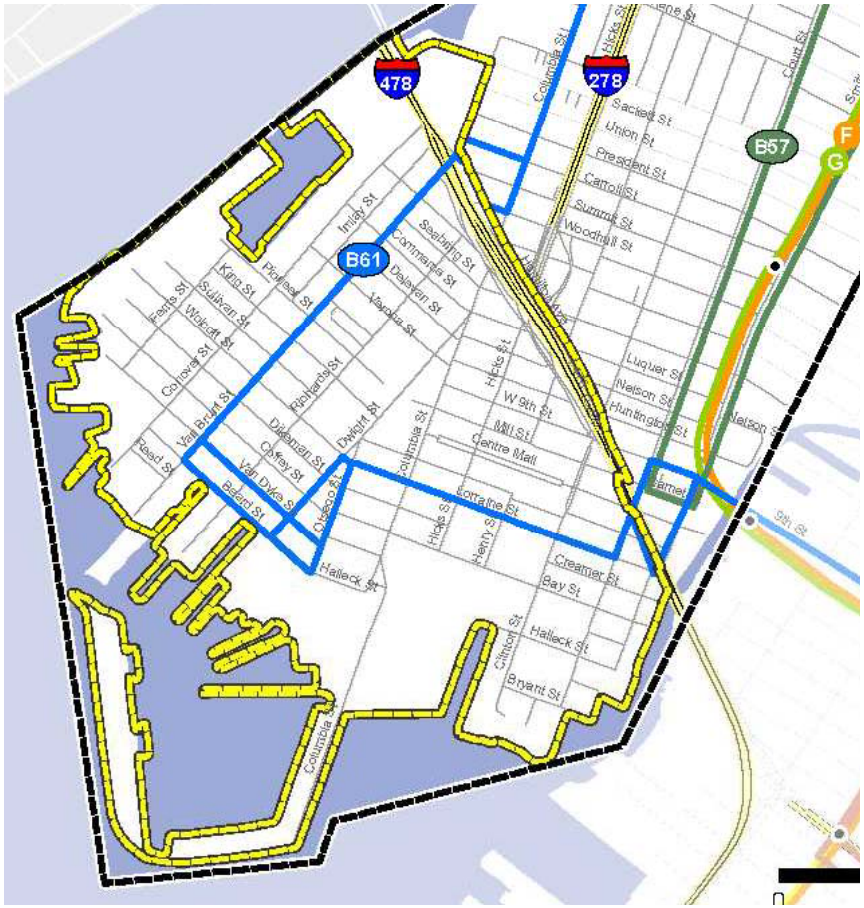
LOCATION	1989	1999	2010	PERCENT CHANGE 1989-1999	PERCENT CHANGE 1999-2010
Focus Area	$15,571	$15,928	$19,417	2%	22%
Study Area	$38,203	$51,164	$65,631	34%	28%

Sources: **2000 U.S. Census; ESRI. All values in 2010 dollars, based on US Bureau of Labor Statistics, Consumer Price Index (CPI)**

Existing Conditions

Focus Area Existing Transit Service

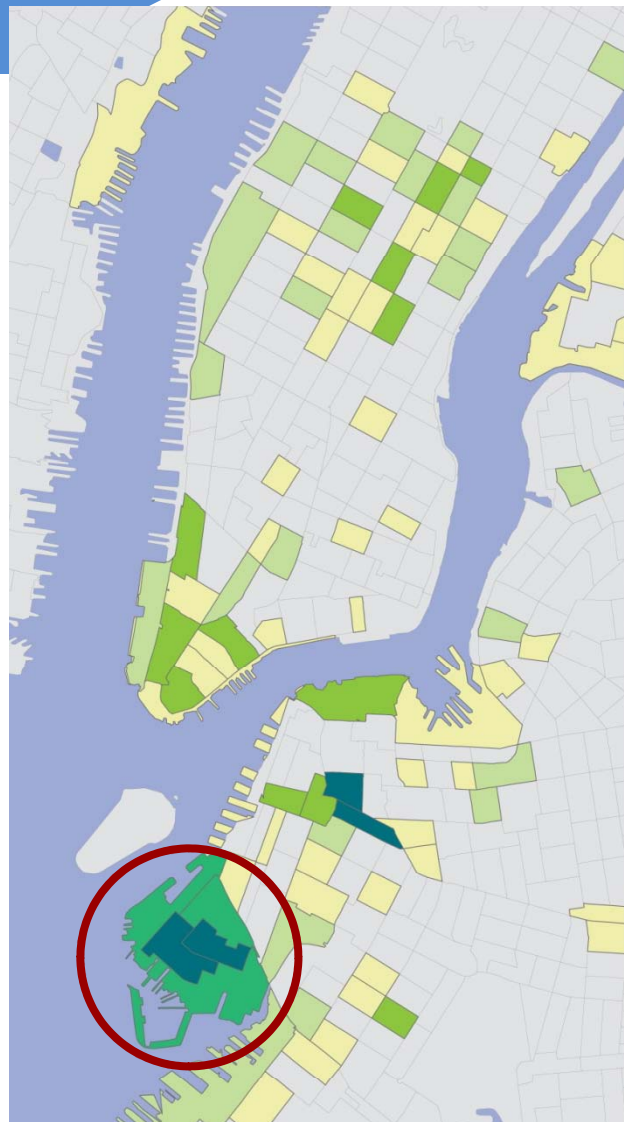
- Transit Service
  - B61 Bus
    - 17,583 Average Weekday Riders
    - 8 Minute AM Peak Headway
  - Nearby Subway Station at Smith/9th Street (F, G)
- Transit Issues
  - No Subway Service Within Focus Area
  - Long Travel Time to Downtown Brooklyn
  - Perceived Lack of Bus Reliability



Existing Conditions

Focus Area Journey to Work

- Red Hook Residents Commute to:
  - Red Hook:
    - 15 %
  - Downtown Brooklyn:
    - 11 %
  - Downtown Manhattan:
    - 13 %
  - Midtown Manhattan:
    - 14 %
  - Other:
    - 47 %
- Red Hook Employees Have Dispersed Origins



Place of Employment, Focus Area Residents

2000 Census

Existing Conditions

Focus Area Economic Development / Existing Zoning

- Economic Development Potential Shaped by Existing zoning and Public Policy
  - Waterfront
    - Part of the Industrial business Zone (IBZ) and Significant Maritime and Industrial Area
    - Zoned for Manufacturing (Residential not Permitted)
  - Central Upland Areas
    - Zoned for Medium Density Residential (R5 and R6)
    - Limited Potential for Increased Density Under Existing Zoning
- Planned Development
  - Less Planned Development in Focus Area than in Larger Study Area
  - Mixed-Use Redevelopment of 160 Imlay Street
  - Few Other Small Developments, Mainly Residential

Recently-Completed and Planned Development Projects

Existing Conditions

- Questions / Discussion

Transit Demand Analysis

Objective

- Project Transit Demand for Red Hook Focus Area with New Streetcar Service :

  Step One - Establish Existing Transit Demand in Focus Area

  Step Two – Estimate Increase in Transit Use that can be Expected with Streetcar

  Step Three – Factor in Additional Ridership Attributable to Currently Planned Growth

Transit Demand Analysis

Step One – Existing Transit Demand

NYCT Passenger boardings for all B61 and former B77 bus stops in Red Hook

27.9% of Average Daily Boardings at Smith/9th Street subway station minus transfers*

Weekday Bus Boardings Within Focus Area = 2,738

+

Subway Boardings from Focus Area = 1,114

=

Total Weekday Transit Boardings from Focus Area = 3,852

**27.9% is proportion of Red Hook population living within ½ mile catchment area of Smith/9th Station*

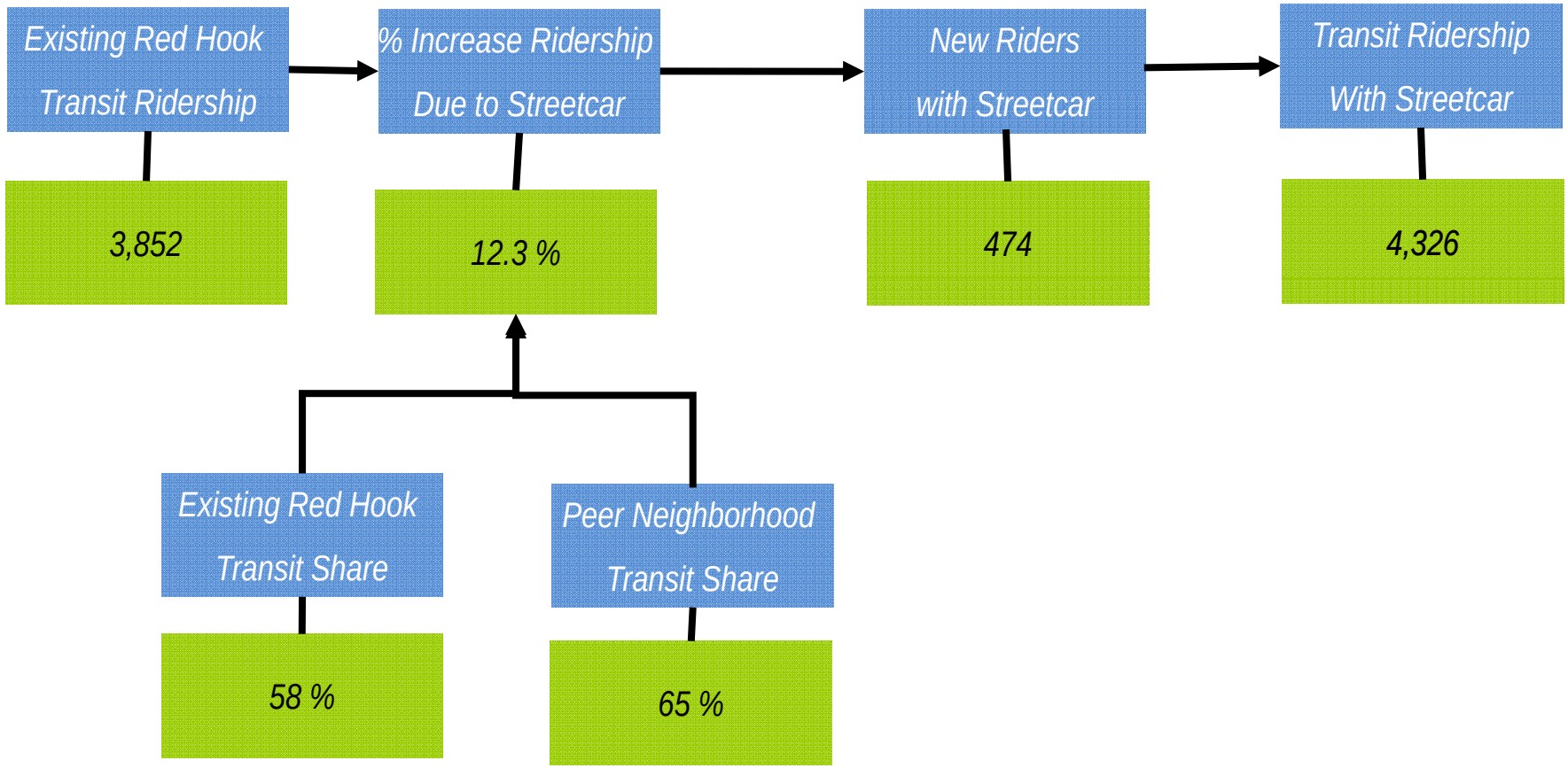
Transit Demand Analysis

Step Two –Estimate Increase

- Existing Red Hook Transit Share – 58%
  - Source = 2000 Census JTW
- Peer Neighborhoods Transit Share – 65%
  - Peer Neighborhoods are parts of Bedford-Stuyvesant and Greenpoint served by G train only
  - G Train serves as Proxy for Future Streetcar (Lower frequency rail service with connections to higher–frequency subway lines)

Transit Demand Analysis

Step Two – Estimate Increase



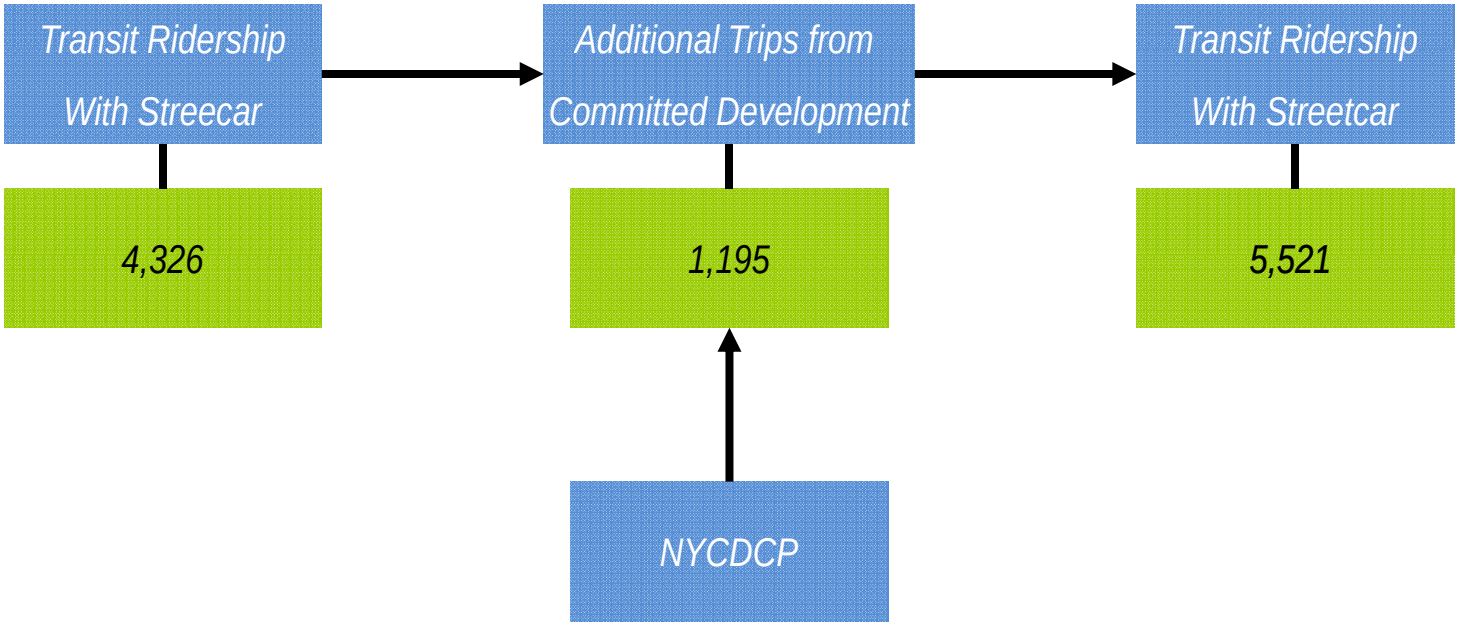
Transit Demand Analysis

Step Three – Additional Demand from Development

- Developed With Input from NYCDCP
- Trip Generation Rates:
  - CEQR Technical Manual
  - Study Area EIS documents
- Total Developments 2010-2015
  - 166 Residential Units
  - 15,000 Square Feet of Office
  - 5,000 Square Feet Community Facilities

Transit Demand Analysis

Step Three – Additional Demand from Development



Transit Demand Analysis

Current Red Hook Transit Trips (3,852)

+

Projected Additional Trips Attributable to Streetcar (474)

+

Transit Trips from New Development (1,195)

=

5,521 Total Transit Trips → *43% Increase*

Transit Demand Analysis

- Peer Studies Show that Reliable Streetcar Operation with Economic Development Strategies Results in Ridership Gains :
  - **Philadelphia** – Negligible Growth Due to Unreliable Operations and No Land Use Plan
  - **Toronto** = 15% (Highly Built Out Corridor)
  - **Seattle** = 19% In 1 Year (New Neighborhoods)
  - **San Francisco** = 300% (Dense CBD Corridor with very large tourism component)

Transit Demand Analysis

- Initial Peer Neighborhood Analysis Indicates a 12 % Growth in Red Hook Transit Ridership Because of Streetcar
- Additional Growth in Transit Ridership Expected Because of Committed Developments in Red Hook
- Streetcar Impact on Economic Development could Yield Additional Ridership Growth, but Only if Combined with Complementary Measures
- Next Step – Factor in Areas outside of Red Hook based on Chosen Alignment(s)

Transit Demand Analysis

- Questions / Discussion

Case Studies

Selected Systems

Portland, OR

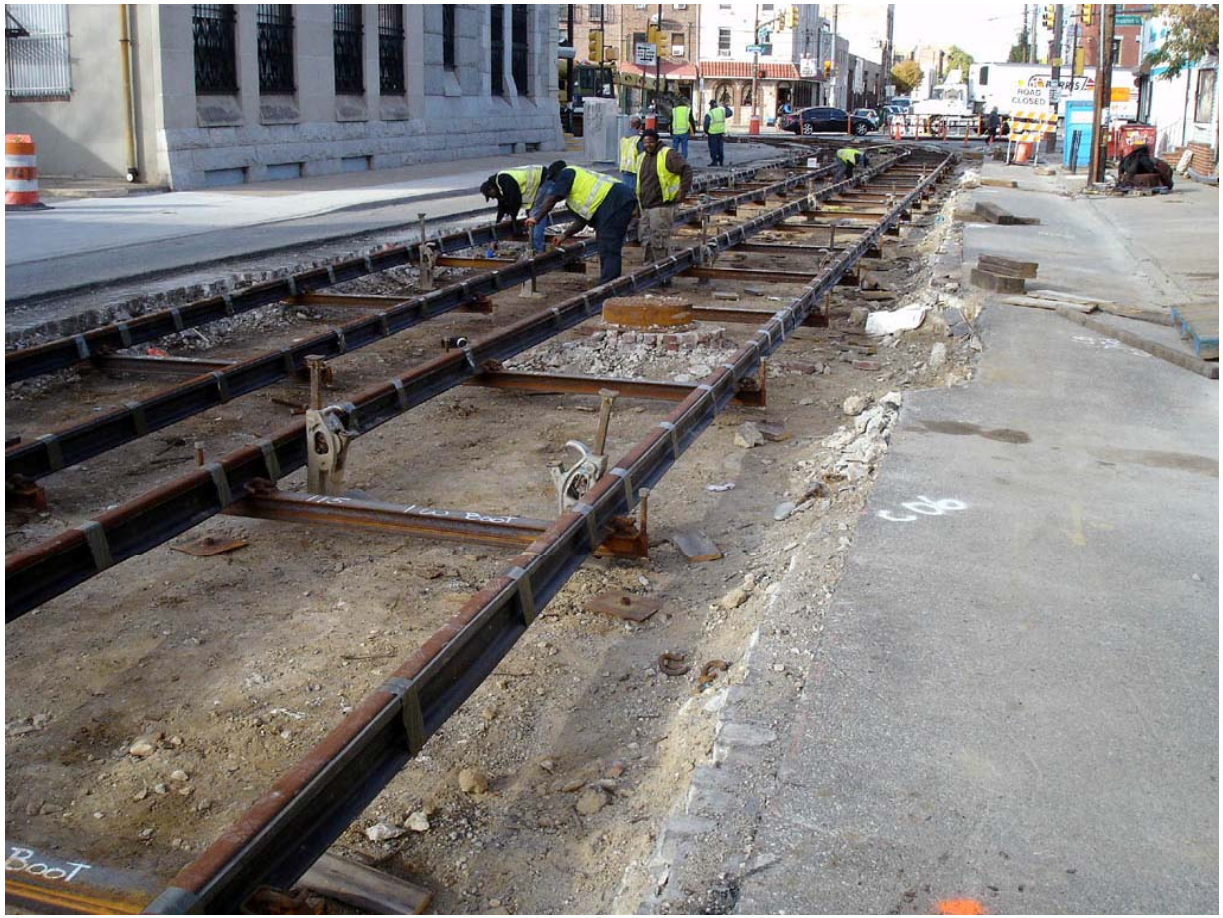
Seattle, WA

Philadelphia, PA

Case Studies

Lesson's Learned

- Early Utility Coordination with Both Public/Private Entities is a Key Factor



Case Studies

Lesson's Learned

- Portland and Seattle Demonstrate Increased Development Within Two to Three Blocks of the Route Can Occur with Complementary Incentives
- Portland and Seattle Demonstrate that Streetcar Ridership can Build from First Year of Operation
- Philadelphia Shows that not all Streetcar Systems Yield Ridership Increases

Case Studies

Lesson's Learned

- Integration with Existing Bus and Subway Should be an Integral Part of System Planning
  - Fare and Transfer Integration
  - Physical Connections

LRT and Bus Interaction, Portland

Case Studies

Lesson's Learned

- Streetcar Tracks Can Pose Bicycle Safety Concerns
- Design Elements Should be Developed to Minimize Impacts to Bike Network
- Balance Bike, Transit, Pedestrian, Resident, and Business Needs

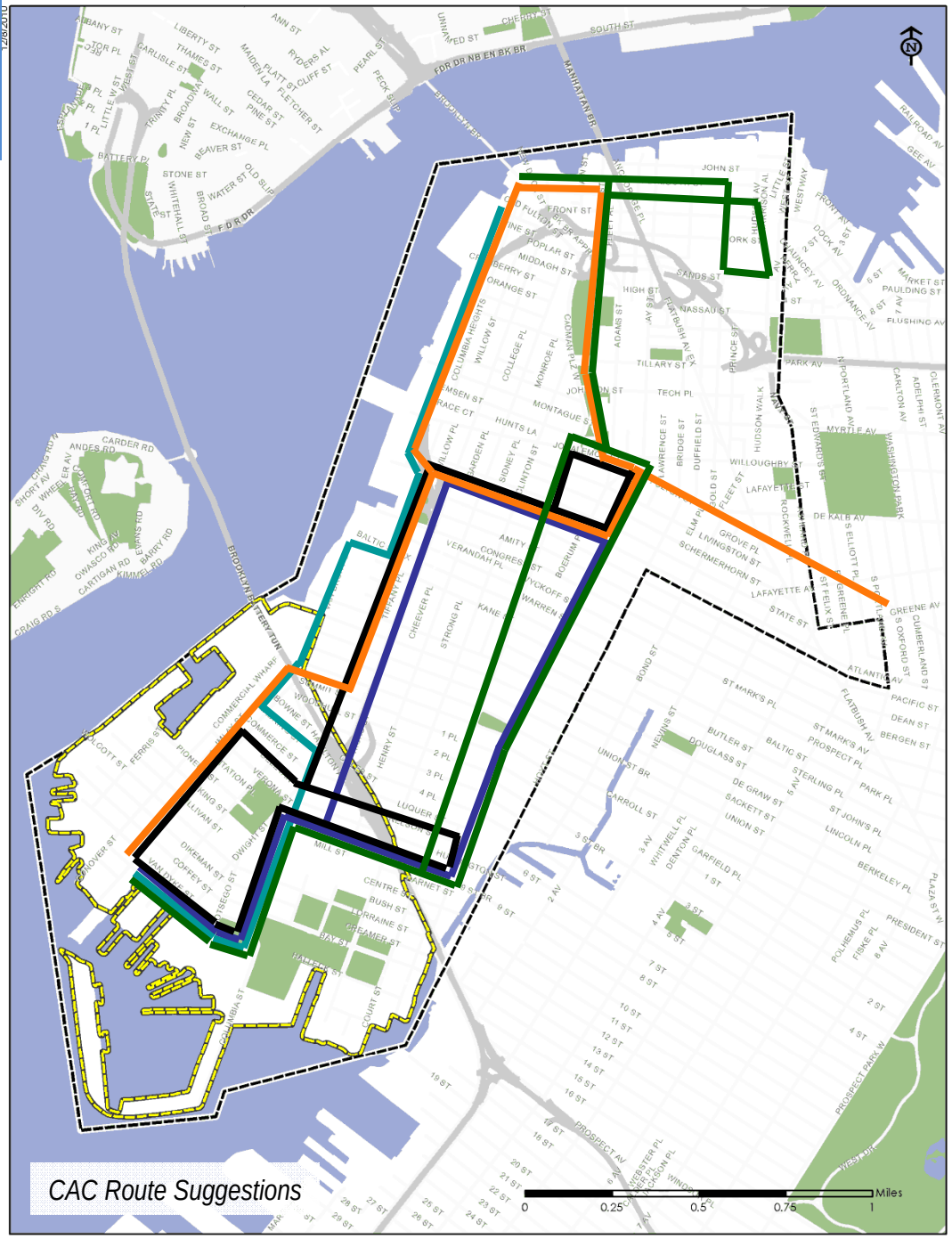
Case Studies

- Questions / Discussion

Route Alignment

Community Input

- Google Map Tool
- Other Written and Drawn Suggestions



Route Alignment

Key Considerations

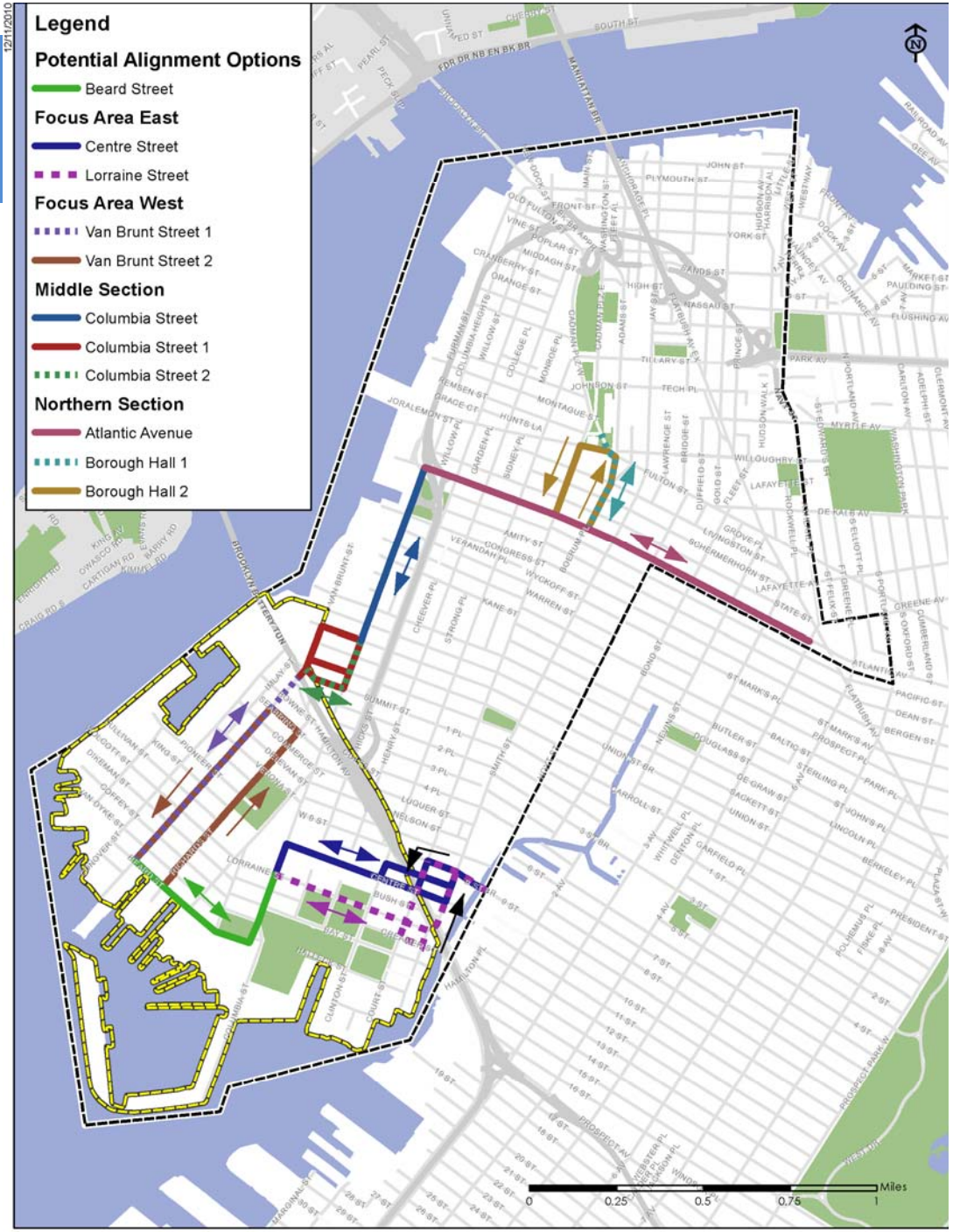
- Serve Major Trip Generators
- Street Cross Sections
- Provide Transit Connections

Route Alignment
Future Consideration

Service areas not considered at this time:

- Brooklyn Bridge Park
- DUMBO
- Hicks
- Smith/Court

Alignment Options



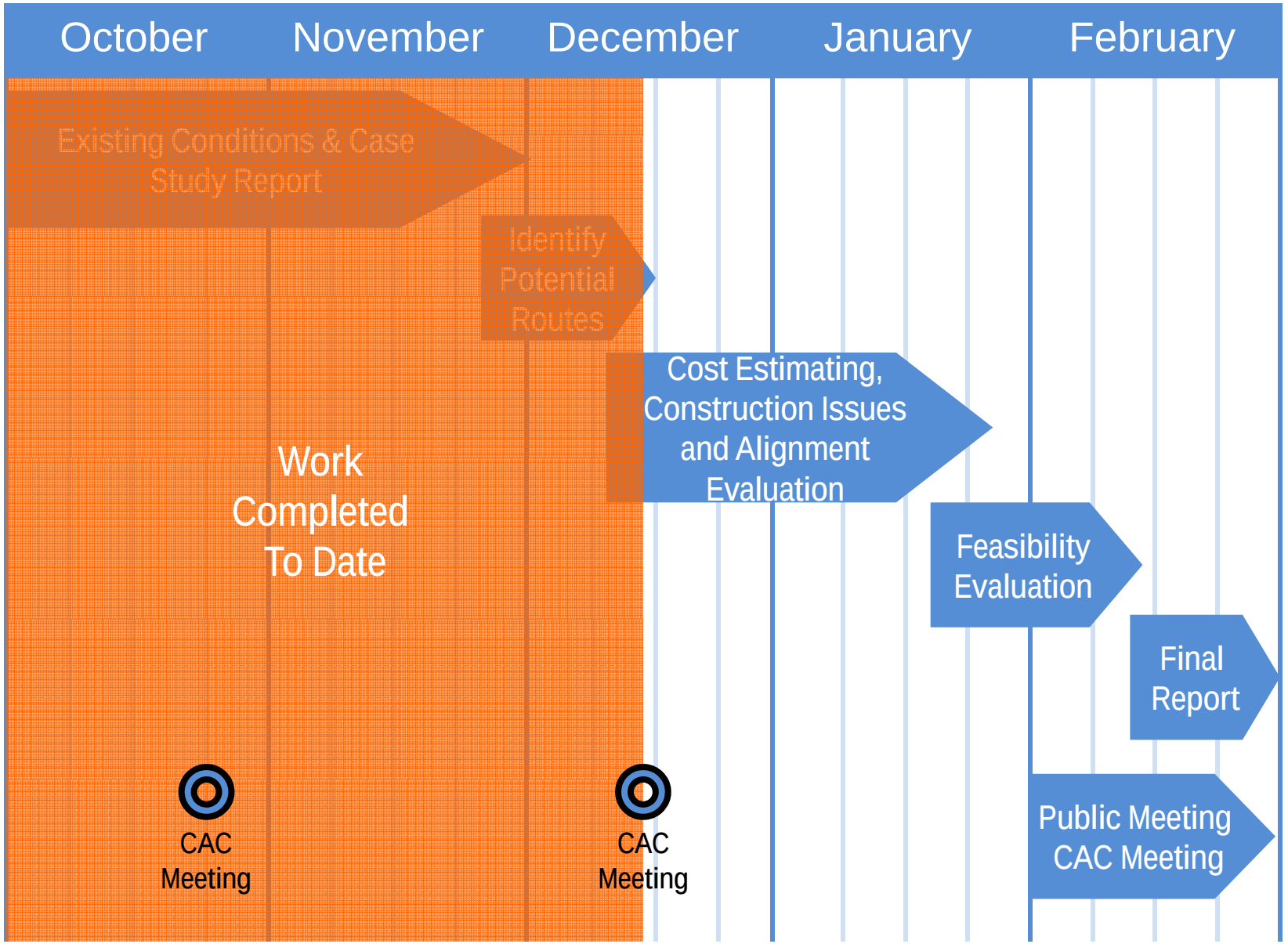
Route Alignment
Evaluation Methodology

- Goals:
  - Improve Transportation Mobility
  - Provide Economic opportunity and investment and Enhance the Community Character
  - Maintain Traffic and Delivery Access
  - Minimize Adverse Impacts on the Built and Natural Environment
  - Minimize Streetcar Capital and Operating Costs and Impacts

Route Alignment

- Questions / Discussion

Schedule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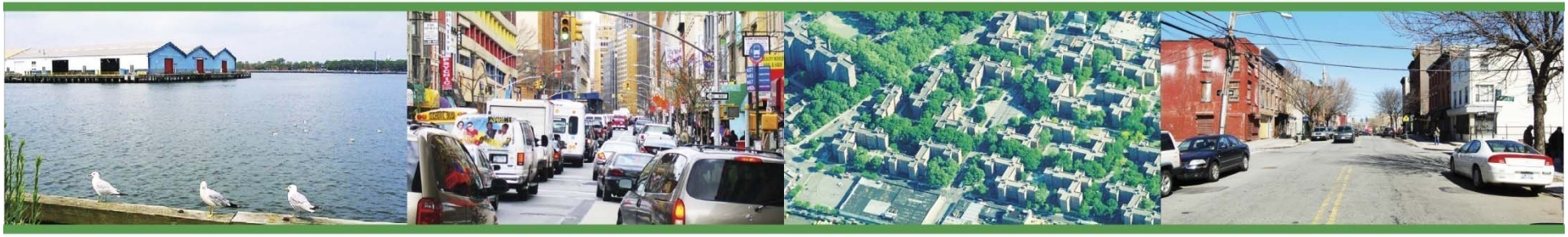

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