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

Existing Conditions & Case Study Report

November

Identify Potential Routes

December

Cost Estimating, Construction Issues and Alignment Evaluation

January

Feasibility Evaluation

February

Final Report

Public Meeting CAC Meeting

CAC Meeting

CAC Meeting

Work Completed To Date
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.)

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<tr>
<th>LOCATION</th>
<th>PERSONS PER SQUARE MILE</th>
<th>PERCENT CHANGE</th>
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<tr>
<td>Focus Area</td>
<td>12,497.55</td>
<td>11,770.47</td>
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<td>27,280.67</td>
<td>29,541.97</td>
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Sources: 1990 and 2000 data from U.S. Bureau of the Census; 2010 estimates from ESRI.

• Relatively Low Employment Density (Compared to Study Area)

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<tr>
<th>LOCATION</th>
<th>EMPLOYEES PER SQUARE MILE</th>
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<tr>
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<td>6,274.13</td>
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Sources: 2000 data from U.S. Bureau of the Census

• Low Median Household Income

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<tr>
<td>Focus Area</td>
<td>$15,571</td>
<td>$15,928</td>
<td>$19,417</td>
<td>2%</td>
<td>22%</td>
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<tr>
<td>Study Area</td>
<td>$38,203</td>
<td>$51,164</td>
<td>$65,631</td>
<td>34%</td>
<td>28%</td>
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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
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
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

- **Existing Red Hook Transit Ridership**: 3,852
- **% Increase Ridership Due to Streetcar**: 12.3%
- **New Riders with Streetcar**: 474
- **Transit Ridership With Streetcar**: 4,326

- **Existing Red Hook Transit Share**: 58%
- **Peer Neighborhood Transit Share**: 65%
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 Ridership
With Streetcar

4,326

Additional Trips from
Committed Development

1,195

Transit Ridership
With Streetcar

5,521

NYCDCP
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
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
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
Service areas not considered at this time:

- Brooklyn Bridge Park
- DUMBO
- Hicks
- Smith/Court
Alignment Options
• **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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BROOKLYN STREETCAR FEASIBILITY STUDY

Presentation to Community Advisory Committee

December 13th, 2010 – CAC Meeting #2