

Atlantic Yards: Barclays Center Traffic Study Draft Scope



Image Courtesy of SHoP Architects

April 5, 2012



**SAM SCHWARTZ
ENGINEERING**

Barclays Center Traffic Study: Draft Scope

- **Goal: To evaluate the effect of arena event vehicle traffic on the area roadway network.**
 - Pre-Opening Study (spring 2012) – To establish a current baseline of traffic conditions in the arena study area.
 - Post-Opening Study (winter/spring 2013) – To measure the effects of arena operations and develop measures to address identified capacity constraints.
- **Scope developed by Sam Schwartz Engineering and New York City Department of Transportation.**
- **Draft scope presented to Atlantic Yards Transportation Working Group March 8, 2012 and public comments received through March 22, 2012.**

Barclays Center Traffic Study: Draft Scope

Study Locations

- Study locations selected based on assessment of routes where arena-generated vehicles would likely travel.
- Includes locations near the arena, larger parking facilities, and regional access routes.
- **Several locations modified and added based on community input received.**

Study Time Periods

- Most arena events occur in the evening, typically starting between 7 PM and 8 PM and ending between 10 PM and 11 PM.
- Study periods will correspond with the times when arena visitors would likely be arriving and departing the venue.
- Weekday (Tuesday – Thursday) and Saturday evening data will be collected during the following periods:
 - Pre-Event: 6:00 PM to 8:30 PM
 - Post-Event: 9:30 PM to 11:30 PM

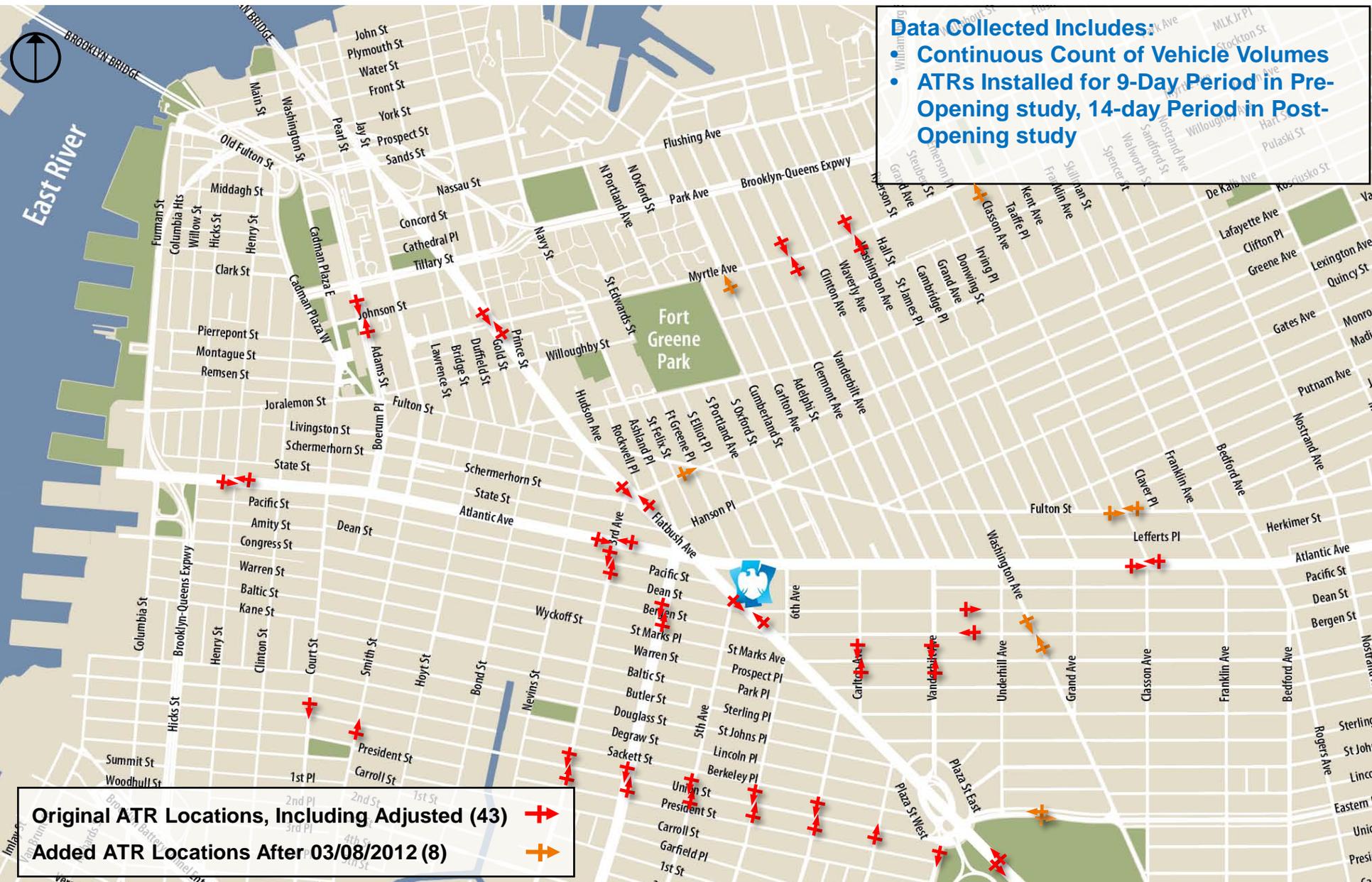
Barclays Center Traffic Study: Manual Counts



Barclays Center Traffic Study: ATRs

Data Collected Includes:

- Continuous Count of Vehicle Volumes
- ATRs Installed for 9-Day Period in Pre-Opening study, 14-day Period in Post-Opening study



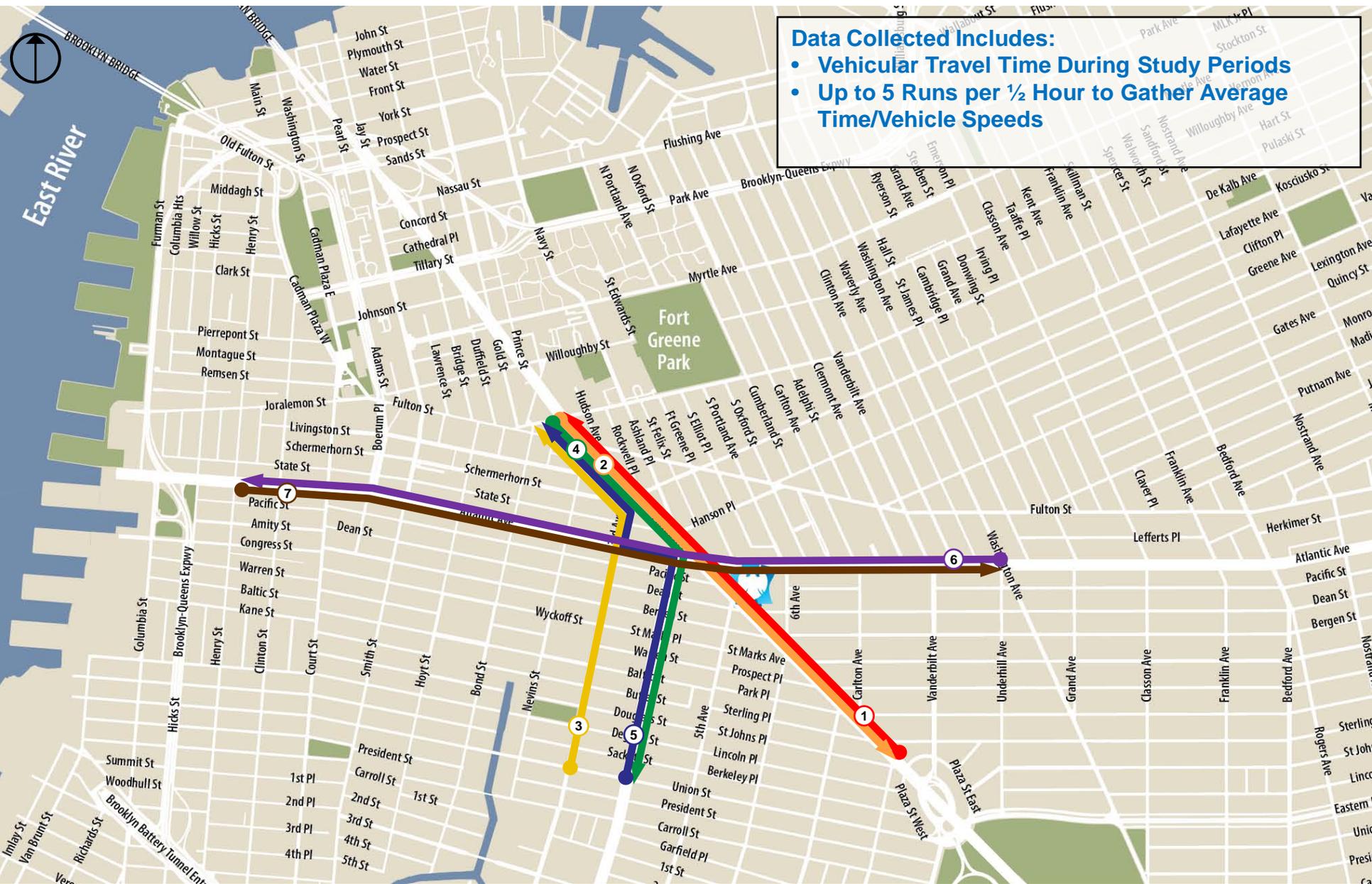
Original ATR Locations, Including Adjusted (43) →

Added ATR Locations After 03/08/2012 (8) →

Barclays Center Traffic Study: Travel Time Runs

Data Collected Includes:

- Vehicular Travel Time During Study Periods
- Up to 5 Runs per ½ Hour to Gather Average Time/Vehicle Speeds



Barclays Center Traffic Study: Data Analysis

- All study intersections to be analyzed with Highway Capacity Software (HCS) to establish vehicle/capacity ratios, delays, and levels of service (LOS) for each lane group, approach, and overall intersection.
- LOS, a function of vehicle delay times, is the primary metric used to evaluate the operations of an intersection. LOS criteria:

	Control Delay per Vehicle (s/veh) ¹
• LOS A	≤ 10 s
• LOS B	> 10 s – 20 s
• LOS C	> 20 s – 35 s
• LOS D	> 35 s – 55 s
• LOS E	> 55 s – 80 s
• LOS F	> 80 s

1. Transportation Research Board, *Highway Capacity Manual*, 2000.

Barclays Center Traffic Study: Study Results

- **Pre-Opening Study Results**

- Vehicle delay and LOS for 56 study intersections in four peak hours (pre- and post-event for weekday and Saturday).
- Identification of pre-opening, vehicular capacity constraints (>45 seconds of delay) during study periods..
- Overall traffic volumes along arterials and area access points
- Typical vehicle travel times along arterials during study periods.
- **Comprehensive overview of study area traffic volumes.**

- **Post-Opening Study Results**

- Comparison of pre- and post-opening vehicle delay and LOS for 56 study intersections in four peak hours.
- Identification of intersections and movements affected by arena-generated vehicles (where delay increases significantly).
- Identification of arena vehicle volumes along access routes.
- Comparison of typical vehicle travel times along major arterials in the pre- and post-opening condition.
- Potential measures to address identified vehicle capacity constraints.
- **Comparison of pre- and post-opening study area traffic volumes.**