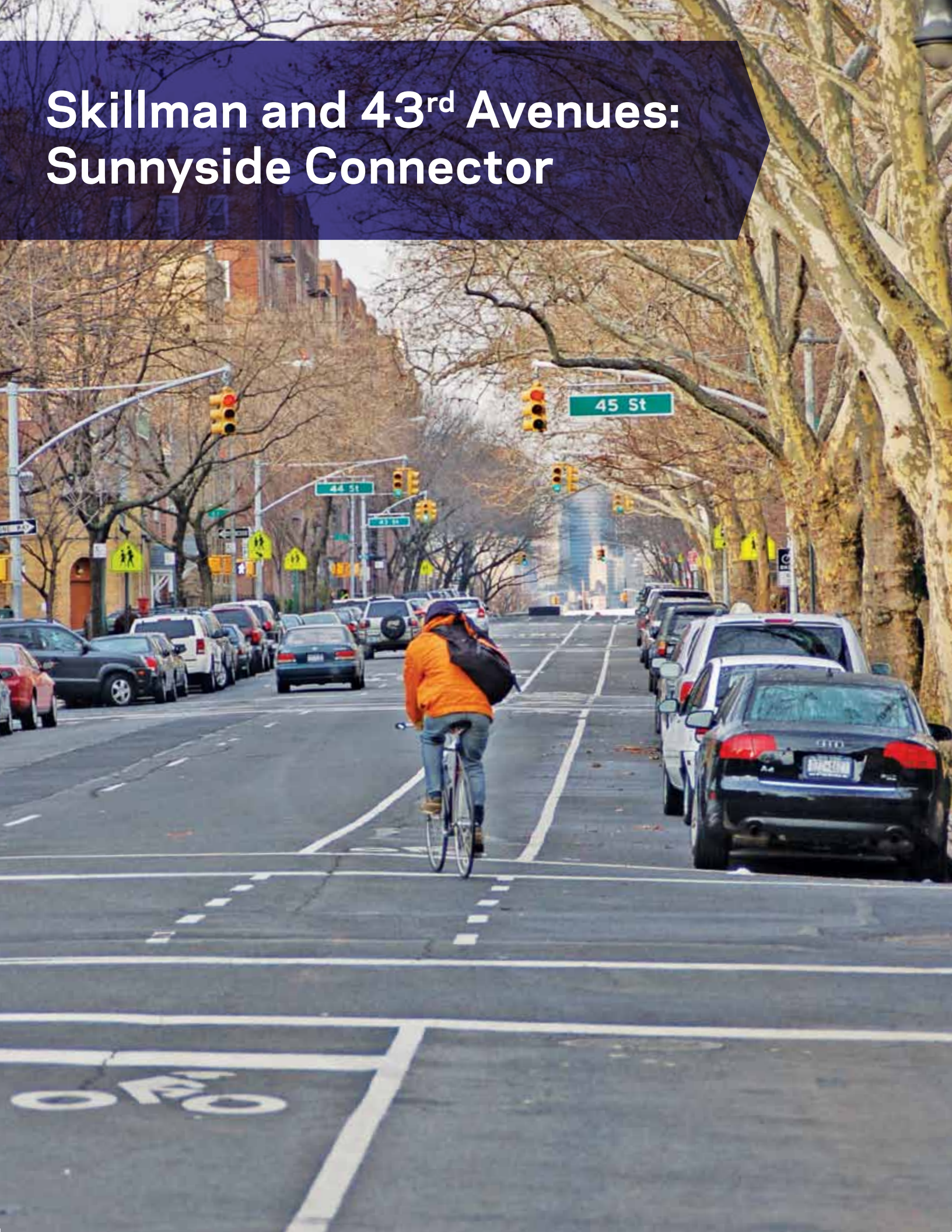
Skillman and 43rd Avenues: Sunnyside Connector



Purpose

- Reduce traffic speeds
- Improve pedestrian safety
- Expand bicycle network connections

Outreach

- DOT presented plans to Community Board 2 in April 2008 and received feedback

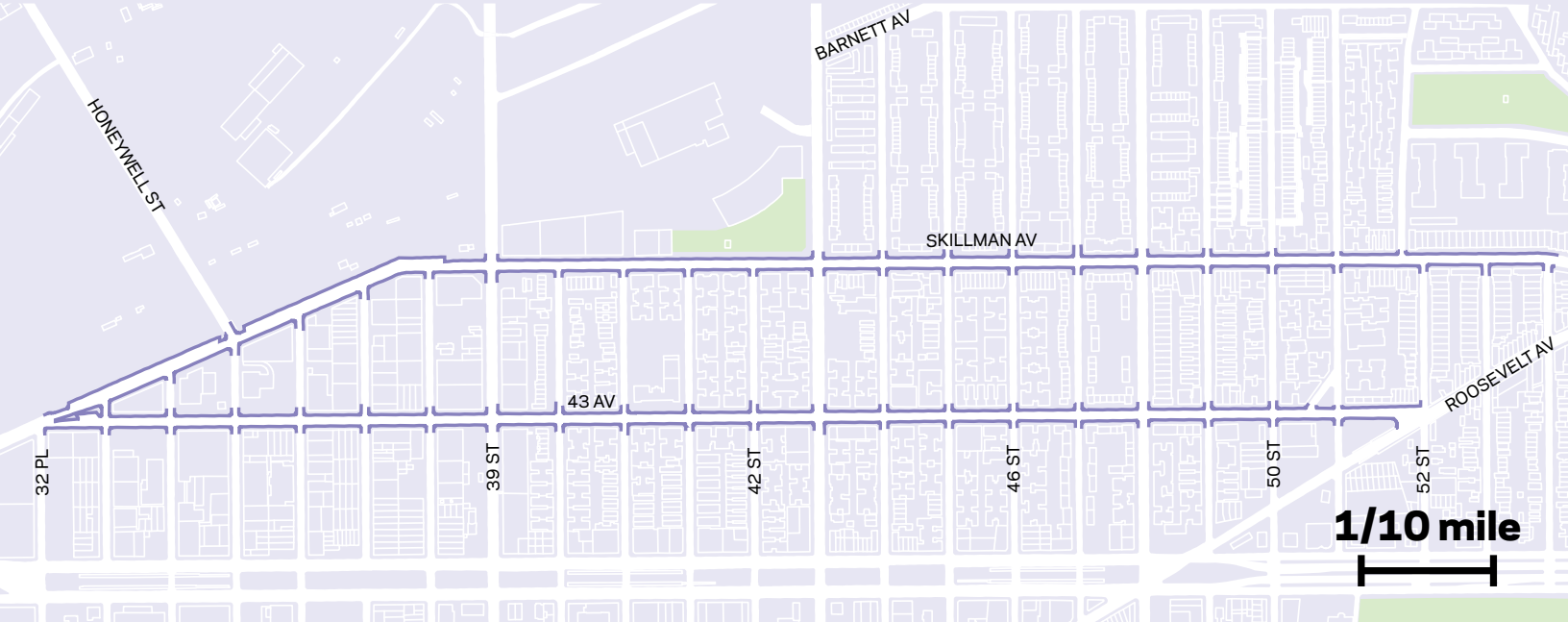
Approach

- Adjusted traffic signal progressions
- Installed on-street bike lanes and signs

Results

- Average speeds reduced by 18% between 9 a.m. and noon
- 65% reduction in the number of crashes involving injuries to pedestrians; 49% reduction in crashes with injuries to motor vehicle occupants
- Bicycle connectivity improved; added five miles to the bicycle network
- Responded to community concerns about traffic speeds

Skillman and 43rd Avenues, parallel routes to Queens Boulevard in Sunnyside and Woodside, Queens, are wide, straight roadways where many vehicles traveled above the 30 m.p.h. speed limit. Both are lined with a diversity of uses including residences, retail commerce, schools and parks. High vehicle speeds along the corridors put pedestrians and cyclists at risk, and the community was concerned about the effect speeding was having on safety along the corridor.



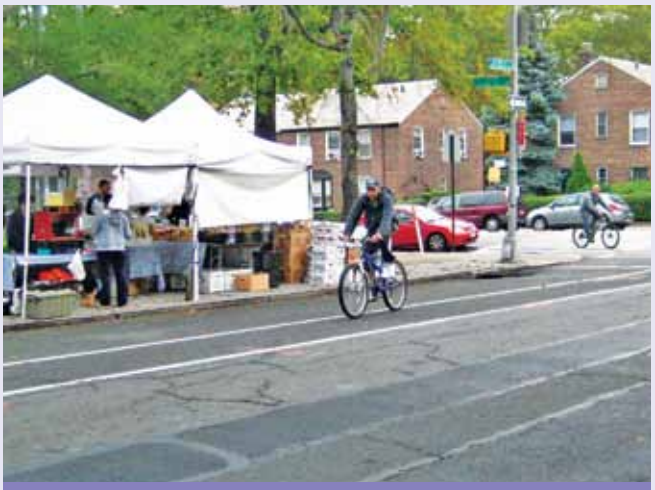
Skillman and 43rd Avenues are used by motorists as a less congested alternative to Queens Boulevard, even though these streets are much more like "community streets" than thoroughfares. Both are wide roads which led to speeding.

In order to address this problem DOT proposed traffic calming measures. DOT informed Community Board 2 (CB2) of planned changes to street operations by letter in February 2008 and in a presentation to CB2 in April 2008, and answered questions and received feedback.

DOT made adjustments to the traffic signal progressions, narrowed the travel lanes and installed on-street bike lanes. This program was implemented in two phases: first with signal modifications, and then with the addition of bike lanes and street signs. These actions were intended to reduce vehicle speeds, provide pedestrians with more signal time to cross the street and improve bicycle connectivity through Queens.

In March 2008 DOT adjusted the traffic signals along the corridor by timing the progressions (the rate at which signals turn green in succession) for vehicles traveling below the speed limit. In May 2008 the bike lane segments were installed, completing a continuous five-mile link from Flushing Meadows Corona Park to Manhattan via the Queensboro Bridge.

The changes made to these roadways achieved reductions in the speeds of motor vehicles at most times of the day while not impacting the overall traffic capacity. Because DOT adjusted the signal progression before installing the bike lanes, the results from each change could be measured separately. The results from the signal modifications were clear. Speeds were lower at four of five locations on Skillman Avenue and all four locations on 43rd Avenue. The subsequent addition of bike lanes helped to reduce speeds even further. The



Cyclists use new bike lanes along Skillman Avenue in Sunnyside.

Crashes with Injuries along Skillman and 43rd Avenues between 32nd Place and 52nd Street

	Before* (three previous years)			After
Total Crashes with Injuries	46	43	33	22.6
Number of Crashes with Injuries to:				
Motor Vehicle Occupants	28	28	19	12.7
Pedestrians	15	12	9	4.2
Bicyclists	3	5	5	5.6

* Before columns show the crash history for each of the three years immediately prior to project implementation. After column shows number of crashes since implementation (through November 2009) at annual rate. See page 72 for further information on crash data source and analysis methodology. The sum of the three specific categories may not equal "Total Crashes with Injuries" because some crashes involved injuries in multiple categories.

Adjustments to signal timing and installation of striped bike lanes have reduced average speeds by 18% between 9 a.m. and noon.

most recent data shows average speeds at some locations decreased by more than 20%, which meant vehicles were driving on average 10 m.p.h. slower by fall 2008.

The total number of crashes involving injuries showed a statistically significant reduction from an average of 40 per year in the three prior years to an annual rate of 22.6 since project implementation The number of crashes involving injuries to pedestrians and motor vehicle occupants also decreased to a statistically significant degree (for crash analysis methodology, see page 72).

By formalizing an already well used bicycle route with striping and signs, including a direct route to the Queensboro Bridge, the connectivity to the larger bicycle network was improved and the route was made safer for cyclists. The project also assisted in calming traffic, specifically through speed reductions achieved from signal timing modifications. Both actions combined to improve the corridor and address community concerns.

Skillman Avenue Average Morning Traffic Speeds (in m.p.h.)

	Before	After 1	After 2
33rd Street to 32nd Street	32.6	31.8	30.7
39th Street to 38th Street	26.9	27.9	25.6
43rd Street to 42nd Street	30.9	24.5	23.3
47th Street to 46th Street	30.2	22.4	19.4
52nd Street to 51st Street	26.3	24.8	24.4

Before speed data collected in March 2008; traffic signals adjusted the end of March 2008, bike lanes installed in June 2008. After 1 collected in April 2008 following traffic signal adjustment; After 2 collected August 2008 following bike lane installation. All data collected weekdays between 9 a.m. and noon.

43rd Avenue Average Morning Traffic Speeds (in m.p.h.)

	Before	After 1	After 2
35th Street to 36th Street	27.6	23.0	21.9
39th Place to 40th Street	28.1	24.1	22.0
44th Street to 45th Street	28.0	21.7	22.5
48th Street to 49th Street	27.1	24.5	22.8

Before speed data collected in March 2008; traffic signals adjusted the end of March 2008, bike lanes installed in June 2008. After 1 collected in April 2008 following traffic signal adjustment; After 2 collected August 2008 following bike lane installation. All data collected weekdays between 9 a.m. and noon.

Westbound Skillman Avenue Traffic Volumes (average vehicles per hour)

Location	Time	Before	After	% Change
52nd Street to 51st Street	7 - 10 a.m.	435	531	22%
	12 - 2 p.m.	319	352	10%
	4 - 7 p.m.	371	439	18%
47th Street to 46th Street	7 - 10 a.m.	467	500	7%
	12 - 2 p.m.	314	319	2%
	4 - 7 p.m.	321	355	10%
43rd Street to 42nd Street	7 - 10 a.m.	620	728	17%
	12 - 2 p.m.	382	433	13%
	4 - 7 p.m.	393	466	19%
Average	7 - 10 a.m.	508	586	15%
	12 - 2 p.m.	339	368	9%
	4 - 7 p.m.	362	420	16%

Before data collected in July 2007. After data collected in May 2008. Volumes shown in average vehicles per hour.

Eastbound 43rd Avenue Traffic Volumes (average vehicles per hour)

Location	Time	Before	After	% Change
39th Place to 40th Street	7 - 10 a.m.	298	315	6%
	12 - 2 p.m.	405	383	-5%
	4 - 7 p.m.	629	660	5%
44th Street to 45th Street	7 - 10 a.m.	293	294	0%
	12 - 2 p.m.	385	363	-6%
	4 - 7 p.m.	653	627	-4%
48th Street to 49th Street	7 - 10 a.m.	294	345	17%
	12 - 2 p.m.	415	437	5%
	4 - 7 p.m.	689	683	-1%
Average	7 - 10 a.m.	295	318	8%
	12 - 2 p.m.	402	394	-2%
	4 - 7 p.m.	657	657	0%

Before data collected in July 2007. After data collected in May 2008. Volumes shown in average vehicles per hour.