

Project Goals:

- Improve pedestrian safety
 - Add marked crosswalks
 - Reduce exposure to multiple threat collisions
- Increase driver compliance with the posted speed limit
 - Reduce speed

Project Outcomes

- Add two marked crosswalks
- Collision reduction in the first year
- Significant speed reduction

Nickerson Street Rechannelization

In August, 2010, the Seattle Department of Transportation (SDOT) reconfigured the travel lanes on Nickerson Street from 13th Avenue West to Florentia Street. The goal of this project was to improve pedestrian safety by reducing exposure to multiple lanes of traffic and increasing driver compliance with the speed limit. Prior to rechannelization there were two travel lanes in each direction. The street was reconfigured to one lane in each direction with a two-way left turn lane in the center. Two new marked crosswalks were installed. As part of the rechannelization, SDOT agreed to monitor vehicle traffic and speeds over the following year.

Speed data is reported for both 85th percentile and top-end speeders. The 85th percentile speed is the speed at which 85 percent of vehicles are traveling at or below, and it is considered the route's operating speed.

Top-end speeding is the percent of drivers traveling more than 10 miles per hour over the posted speed limit, which on Nickerson Street is 30 miles per hour. These top-end speeders pose some of the greatest threat to pedestrians. A pedestrian hit at 30 miles per hour has approximately 55 percent chance of survival. At 40 miles per hour the chance of survival is only 15 percent.

Nickerson Street Before:



Nickerson Street After:



Speed

Speed data was recorded between 6th Avenue W and 3rd Avenue W in June, 2007. Prior to the project, the 85th-percentile speeds in both directions exceeded the speed limit: 40.6 mph westbound and 44.0 mph eastbound. Approximately 90 percent of drivers exceeded the speed limit. Speed data was collected at the same location after rechannalization in February, 2011. The 85th percentile declined to 33.1 mph westbound and 33.3 eastbound. After rechannalization, the percent of speeders declined by two-thirds and the percent of drivers exceeding the speed limit by 10 or more miles per hour dropped by more than 90 percent.

85 th Percentile Speed between 3 rd Avenue W and 6 th Avenue W			
<i>Speed in miles per hour</i>			
	Before	After	Change
Westbound	40.6	33.1	-18%
Eastbound	44.0	33.3	-24%

Speeders			
<i>Percent driving over the speed limit</i>			
	Before	After	Change
Westbound	88%	32%	-64%
Eastbound	91%	34%	-63%

Top End Speeders			
<i>Percent 10+ mph over the speed limit</i>			
	Before	After	Change
Westbound	17%	1.4%	-92%
Eastbound	38%	1.5%	-96%

Collisions

The primary motivation of the rechannelization was to allow changes that improve pedestrian safety. After the rechannelization was completed, SDOT installed two new marked crosswalks at Dravus Street and 11th Avenue W. In addition, preliminary collision statistics show a substantial reduction in collisions after the project was completed.

Change in Number of Collisions on Nickerson from 13th Ave W to N Florentia St after Rechannelization		
5-Year Average	One Year Post-Project	Percent Change
10-18-2004 to 10-18-2009	10-18-2010 to 10-18-2011	
33.6	26	-23%



Volume

In 2009 prior to rechannelization there were approximately 18,500 vehicles per weekday between 3rd Avenue W and 6th Avenue W. After rechannelization this number remained roughly the same with 18,300 vehicles recorded in August, 2011 at the same location.

Nickerson Traffic Volume			
	Before	After	Change
AM Peak	816	733	-10%
PM Peak	915	927	+1%
Average Weekday	18,563	18,364	-1%

Freight Use

The number of freight vehicles of all types on Nickerson Street rose slightly after the rechannalization but still account for approximately 5 percent of vehicles along the corridor. Large trucks such as semi-trailers account for approximately 2 percent of total traffic, and they continue to use Nickerson Street both as a through route and to access the Queen Anne neighborhood via 3rd Avenue W.

Alternate Routes:

Geographic conditions (including steep hills to the south and the Lake Washington Ship Canal to the north) and an offset grid pattern limit the number of alternate routes that serve as potential diversion routes for the Nickerson Street corridor. One concern that arose during project planning was that vehicles would be diverted to alternate routes in an attempt to bypass traffic on Nickerson Street.

One such potential route is W Dravus Street. Historical volumes show approximately 8,000 vehicles on Dravus Street, but the most recent counts show volume has fallen to 7,000 vehicles of which 60 per day, or less than 1 percent, were large freight vehicles. In comparison, Nickerson Street served approximately 400 large freight vehicles during the same time period.

15th Avenue W was also identified as a potential diversion route. Traffic volume declined slightly on this street after the Nickerson rechannalization.

15 th Avenue W Traffic Volume			
	Before	After	Change
AM Peak	2,374	1,780	-25%
PM Peak	2,213	2,143	-3%
Average Weekday	43,710	43,384	-1%

Conclusions

The Nickerson rechannalization enabled SDOT to install two new marked crosswalks. The rechannalization improved all marked and unmarked crosswalks on the corridor by reducing the multiple lane threat where one lane of traffic stops but the second lane does not. The project improved traffic safety overall by dramatically reducing the percent of drivers traveling more than 10 miles per hour over the speed limit. The percent of drivers traveling over the speed limit has been reduced by more than 60% and the percent of top-end speeders has been reduced by 90%. Traffic volume remains roughly the same as it was before the rechannalization. There is no evidence that the rechannalization has resulted in traffic diversions.