

Project Goals

- Improve traffic safety
- Increase compliance with the speed limit
- Improve pedestrian and bicycle access

Project Outcomes

- Decline in the rate of total collisions and injury collisions
- Reduction in the number of people exceeding speed limit
- Reduction in pedestrian and bicycle collisions



Background

In May, 2011 the Seattle Department of Transportation reconfigured the lanes on NE 125th Street between Roosevelt Way NE and 30th Avenue NE to make the street safer for everyone, support buses, and make traffic flow more smoothly. Prior to the rechannelization there were two travel lanes in each direction. The street was reconfigured to provide one lane in each direction, a new two-way left turn lane, and bicycle lanes. SDOT agreed to monitor the project's impact on safety and traffic after the rechannelization was completed.



NE 125th Street Before



NE 125th Street After

Speed

Speed data is measured at the speed most drivers are comfortable driving (the 85th percentile), the number of drivers exceeding the speed limit (30 mph) and the number of aggressive speeders, or drivers exceeding the speed limit by at least 10 miles per hour (40 mph). High speeds can be a key contributing factor to the collision and injury rates on city streets. High speeds reduce driver awareness, and create more severe collisions. For example, if a vehicle hits a pedestrian while going 40 miles per hour the pedestrian has a slim chance of survival. Reducing vehicle speed greatly improves pedestrian safety.

SDOT measured speed data near 20th Avenue NE. The location is five blocks from the full signal at 15th Avenue NE and five blocks from the pedestrian signal at 25th Avenue NE. Prior to the project, the 85th percentile speed was 41 mph eastbound (which is downhill) and 39 mph westbound (uphill). Eighty-seven percent of drivers were traveling over the speed limit. 16 percent of drivers were speeding at 40 mph or more - more than 10 mph over the speed limit.

Since the project was completed, most drivers are still able to travel at or above the speed limit. The 85th percentile is now 38 mph eastbound and 36 mph westbound. There has been an 11 percent decrease in the percentage of people exceeding the speed limit. And there has been an even more dramatic 69 percent decrease in the percent of drivers speeding more than 10 miles over the speed limit.

These aggressive speeders are most likely to cause death or injury in the event of a collision.

The fact that most drivers continue to exceed the speed limit indicates that traffic has not come to a standstill but rather continues to be free-flowing most of the day.

NE 125TH STREET SPEED			
	BEFORE	AFTER	CHANGE
85th Percentile	40.0	36.9	-8% ↓
Eastbound	41.4	38.0	-8% ↓
Westbound	38.6	35.7	-8% ↓
Driving Faster Than 30	87%	77%	-11% ↓
Eastbound	92%	85%	-8% ↓
Westbound	83%	68%	-18% ↓
Driving Faster Than 35	51.6%	29%	-44% ↓
Eastbound	62.3%	38.6%	-38% ↓
Westbound	40.8%	19.5%	-52% ↓
Driving Faster Than 40	16%	4.9%	-69% ↓
Eastbound	22.4%	7.3%	-67% ↓
Westbound	9.5%	2.5%	-74% ↓

Volume

After the project was completed, motor vehicle traffic on NE 125th Street increased significantly between Lake City Way and 30th Avenue NE. Further east traffic volume is roughly the same as it was before the project. Taken together, the data indicates that traffic volume overall has increased roughly 10 percent on NE 125th Street. One possible factor in explaining this increase may be traffic diversions immediately following the introduction of tolling on the SR520 floating bridge. Tolling began on that bridge in December, 2011 – and the greatest increase in traffic on NE 125th Street appeared immediately after tolling began.

NE 125TH STREET MOTOR VEHICLE VOLUME			
<i>Between Lake City Way & 30 Avenue NE</i>			
	June 2009	January 2012	Change
Daily Weekday	11,089	14,819	+34%
AM Peak Hour	364	527	+45%
PM Peak Hour Westbound	485	717	+48%

NE 125TH STREET MOTOR VEHICLE VOLUME			
<i>Between 26th Avenue NE & 27th Avenue NE</i>			
	September 2009	February 2013	Change
Daily Weekday	16,209	15,574	-4%
AM Peak Hour	518	536	+3%
PM Peak Hour	720	722	(<) +1%

Pedestrian and bicycle volume was counted at the intersection of NE 125th Street and 30th Avenue NE. The counts were conducted on March 16, 2005 and again at the same location on January 31, 2012. On both days, rain was recorded in Seattle. Both bicycle and pedestrian counts tend to be lower in the winter so this snapshot provides a conservative estimate of the number of pedestrians and bicycles using NE 125th Street.



NE 125TH STREET BICYCLE AND PEDESTRIAN VOLUME			
5-hour Count (7-9am; 1-2pm; 4-6pm)			
	March 16, 2005	January 31, 2012	Change
	High Temp 56 Precipitation 0.14"	High Temp 49 Precipitation 0.03"	
Bicycles along NE 125th Street	7	15	+114%
Pedestrians in the crosswalks	330	676	+105%

The large increase in pedestrian and bicycle volume may be partially explained by nearby land use changes. The northeast corner of this intersection was redeveloped in 2007 and Bartells Drug Store moved to that location. The Lake City Branch of Seattle Public Library, which is one block away, was expanded and remodeled in 2005.

Lake City is designated an Urban Village by the City of Seattle. Urban Villages are expected to absorb most of the growth in population and jobs. According to the Seattle Department of Planning and Development (DPD), the number of jobs in Lake City grew 20 percent between 2004 and 2010. The population of Lake City grew 43 percent between 2000 and 2010 – a rate much higher than the citywide 8 percent population growth during the same period. According to a 2012 report by Puget Sound Regional Council, the population of Lake City is anticipated to

grow another 30 percent and employment by 85 percent by 2040. The additional trips generated by more people working and living in Lake City are likely to result in even greater increases in the number of people walking and biking along NE 125th Street in the future.

Collisions

The rate of collisions and the rate of injury collisions have declined since the project was completed. The number of injury collisions per month decreased. The most pronounced declines occurred in collisions involving people walking or biking and fatality and head-on collisions. Despite the increase in traffic volume, the rate of collisions has decreased by 10 percent. These findings are similar to a recent Federal Highway Administration (FHWA) study (“Evaluation of Lane Reduction ‘Road Diet’ Measures on Crashes”) which studied 30 street reconfigurations in Washington and California and found a 19 percent reduction in the collision rate after conversion from four-lane to three lane roadway configuration.

COLLISION RATE			
	Before	After	Change
Collisions per million vehicles	5.83	5.24	-10%
Injury collisions per million vehicles	2.41	1.99	-17%

Conclusions

Reconfiguring the lanes on NE 125th Street has made it safer for everyone traveling along this street. The safety benefit is especially prominent for people walking and biking. The project dramatically reduced the number of people who are driving more than 10 miles over the speed limit. Even as traffic volume has increased, the rate of collisions has fallen 10 percent. Bicycle and pedestrian volume has increased along this street and it is expected to increase even more in the coming years as the city grows. The project affords the opportunity to install new marked crosswalks – something SDOT is planning to do at 20th Avenue NE adjacent to a church and preschool. The new configuration of the street gives people additional choices for how to get around. And it provides an additional way to encourage new trips to be made by walking, biking and taking transit.

