THRU STREETS

An Innovative Approach to Managing Midtown Traffic

New York City
Michael R. Bloomberg, Mayor

New York City Department of Transportation
Iris Weinshall, Commissioner

March 2004

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PT 2221915
CDOT 01-03 , 02-03

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Table of Contents

Introduction 1
Summary of Program 1
Summary of Findings 3

Program Description 7

***THRU* Streets Designation** 8

Program Elements 10
Signs 10
Markings 11
Signals 12
Curbside Regulations 13
Enforcement 13

Impact Assessment 14
THRU Streets Travel Times 15
Travel Speeds/Segment Analysis 16
THRU Streets Vehicular Volumes 18
Accident Reduction 19
Non-***THRU*** Streets Travel Times 22
Non-***THRU*** Streets Vehicular Volumes 23
Motorist Compliance/Turning Restrictions 24
Split Phasing 25
Pedestrian Activity 25
Curb Clear 26
Conclusions 26

List of Appendices

Appendix I: Program Development

Appendix II ***THRU*** Streets Travel Times

Appendix III: ***THRU*** Streets Vehicle Volumes

Appendix IV: Non-***THRU*** Streets Travel Times and Vehicle Volumes

Introduction

Summary of Program

Vehicle travel on the crosstown streets of Midtown Manhattan has been historically slow and unreliable. Average travel speeds were typically five miles per hour (mph) or less. In Spring 2002, Midtown auto speeds averaged only 4.8 mph eastbound and 4.2 mph westbound. Conditions were erratic with severe delays occurring seemingly at random. In order to make crosstown travel more consistent and faster for buses, trucks and autos, as well as improve conditions for pedestrians, Mayor Michael Bloomberg, with participation by the Department of Transportation (DOT) and the Police Department (NYPD), introduced the ***THRU*** Streets Program as a pilot project in the fall of 2002. In doing so, the Administration has improved the viability of the nation's largest business district -- and improved the quality of life for those New Yorkers and visitors who walk, drive, shop and work in Midtown Manhattan.

The program has been recognized as making a substantial contribution to the field of traffic engineering. In June 2003, the Intelligent Transportation Society of New York awarded both DOT and NYPD its Outstanding ITS Project of the Year for the ***THRU*** Streets program. In addition, the Rudin Center for Transportation Policy and Management has announced that the program will be receiving its Annual Leadership Transportation Award.

The program consists of the following elements:

- nine Midtown streets designated as ***THRU*** Streets – and vehicle turns restricted *off* of these streets on weekdays between 10 am and 6 pm;

- traffic signal "split phasing" introduced at the beginnings and selected endpoints of ***THRU*** Streets, and at selected locations on non-***THRU*** Streets to improve pedestrian safety;

- midtown traffic enforcement efforts focused on ***THRU*** Streets;

- commercial deliveries facilitated by providing new parking opportunities on both curbsides of most non-***THRU*** Streets.

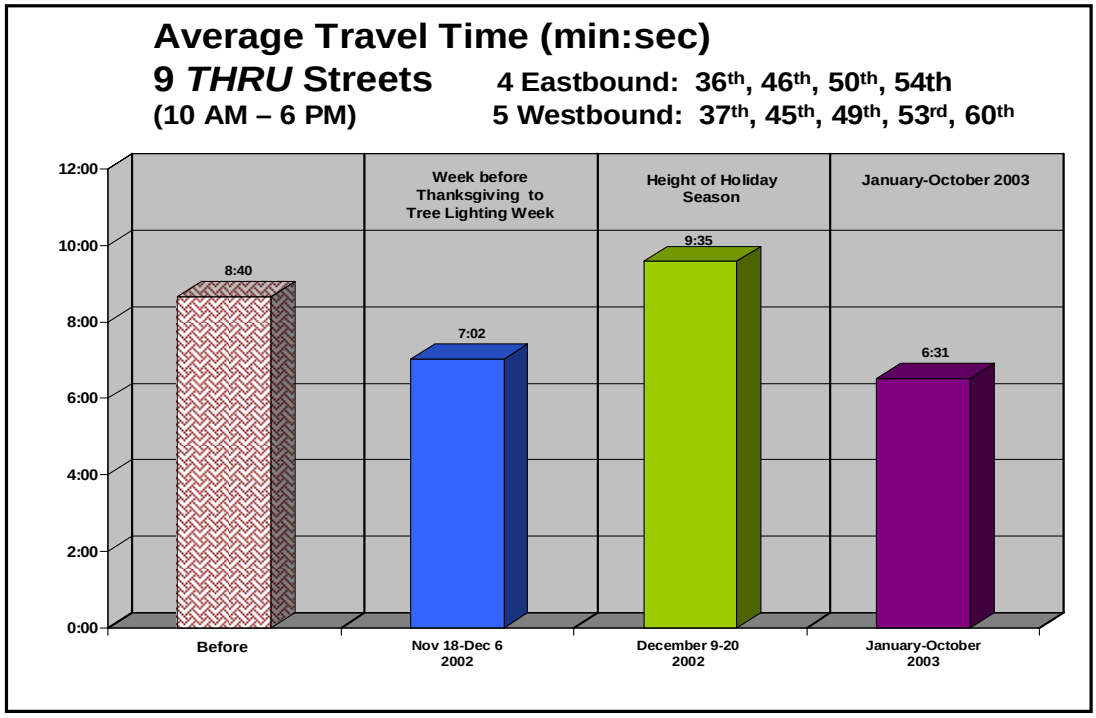
In order to ensure the effectiveness of the program, DOT continued to monitor conditions throughout 2003. Based upon this data, over a year later, the ***THRU*** Streets program continues to be successfully managing traffic operations in Midtown Manhattan.

Summary of Findings

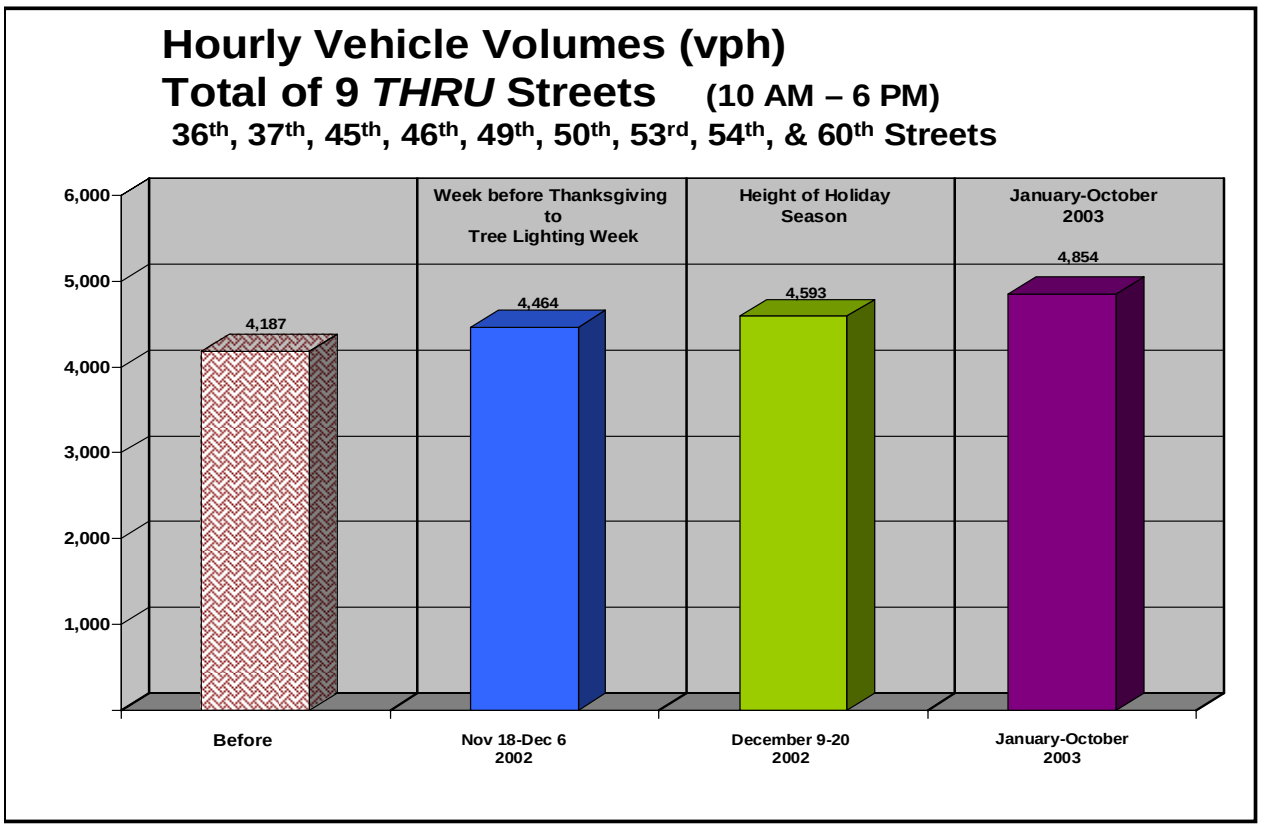
The ***THRU*** Streets program has had a beneficial effect on traffic conditions in Midtown Manhattan. It has consistently improved travel time, increased vehicular capacity, and enhanced pedestrian safety.

The transportation data collected in various periods throughout 2003 was aggregated to provide a representative sampling for the year. It was then compared to pre-implementation conditions in 2002. Following are the highlights of this comparison:

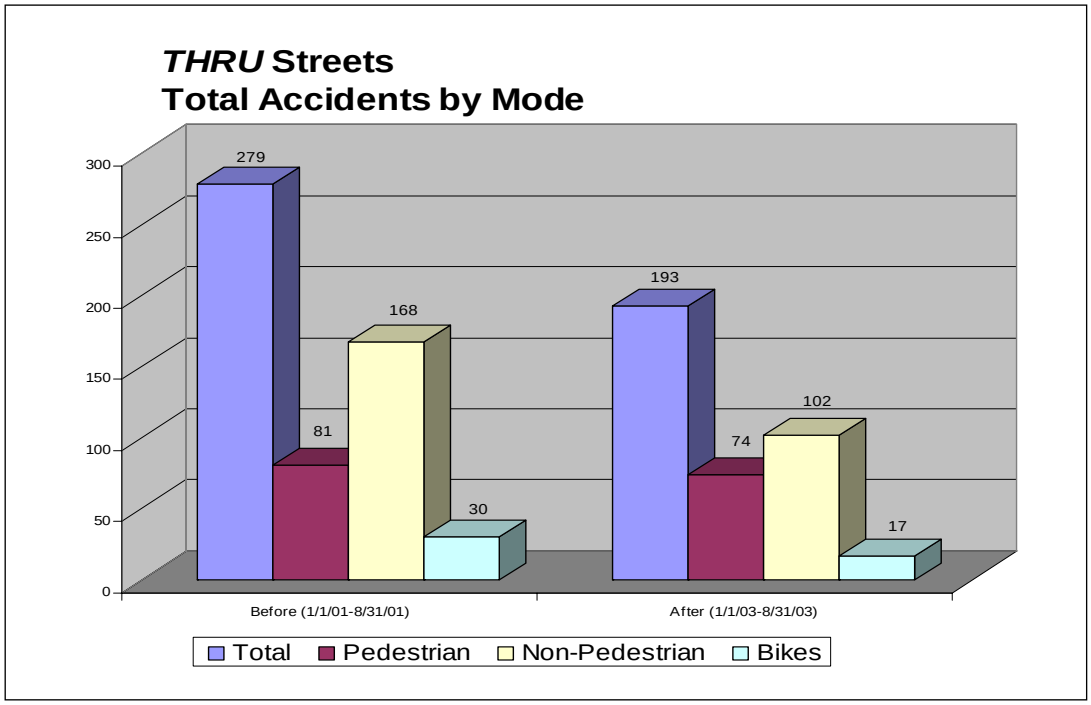
- Travel speeds on the ***THRU*** Streets have shown significant improvements. The average travel speed for the ***THRU*** Streets has increased by 33% (to 5.3 mph from 4.0 mph).
- The time required to travel along the ***THRU*** Streets fell to 6 minutes, 31 seconds from 8 minutes, 40 seconds (a 25% improvement).



- The number of motorists benefiting from this improved travel time rose by 16%, to 4,854 from 4,187 vehicles per hour (vph), representing an average of 74 additional vehicles per hour being accommodated on each of the ***THRU*** Streets.



- Accident data for the first eight months of 2003 was compared to pre-implementation data for the same eight month period in 2001. Total accidents on the ***THRU*** Streets decreased significantly by 31% (to 193 from 279), with pedestrian accidents decreasing nearly 10% (to 74 from 81).



- Compliance with the posted turn restrictions was especially encouraging. During the initial three weeks of the program (when NYPD intersection presence was at its highest), compliance rates averaged 98%. During 2003, when the presence of intersection coverage declined, compliance remained high, averaging 93%, ranging from 91% to 95%.

- The introduction of split signal phasing at selected intersections has proven highly valuable. An overwhelming number of pedestrians benefited from conflict free crossings and most of the locations processed as many or more through and

turning vehicles as they had previously. This is especially significant since the amount of time allocated for the turning movements was sharply curtailed.

- The effectiveness of the split phases is even more pronounced when compared to pedestrian behavior at Midtown's recessed crosswalk locations. On average, 52% fewer illegal pedestrian crossings were recorded at intersections with split phasing compared to those with recessed crosswalks.

- Curb clear time (the amount of time the curb is completely free of illegally parked vehicles) improved slightly to 34% from 31%.

Program Description

The ***THRU*** Streets Program was implemented in two phases. The initial phase consisted of a five-week period beginning October 15, 2002. Its purpose was to familiarize motorists and pedestrians with all elements of the program, and for DOT to monitor conditions and determine whether any changes were warranted. The second phase began on November 18, 2002. By this point, a number of modifications to the program had been introduced. Split phasing was eliminated at the ends of the ***THRU*** Streets; the ***THRU*** Street designation was removed from 59th Street; and turns were allowed from most of the ***THRU*** Streets onto Park Avenue. This coincided with the start of the Holiday Season, which began the week before Thanksgiving, and continued until early January. The Holiday Season typically brings significant shopping activity and tourism to the City, especially to Midtown Manhattan. The schedule for the implementation of the ***THRU*** Streets Program was developed so that the program would be in place prior to the Holiday Season and evaluated during the acute traffic conditions of the season.

THRU Streets Designation

Five pairs of streets (ten streets between 34th and 60th Streets) were initially designated as ***THRU*** Streets. These streets were 36th, 37th, 45th, 46th, 49th, 50th, 53rd, 54th, 59th and 60th Streets, primarily between Third and Sixth Avenues (Figure 1). The limits were established as Sixth Avenue to the west and Third Avenue to the east (except as noted below) as this is the part of Midtown that experiences the most severe congestion. On 36th Street, and originally on 59th Street, the limits extended east to Second Avenue to better manage traffic approaching the Queens-Midtown Tunnel and the Queensboro Bridge, respectively. The western end of the ***THRU*** Streets on 59th and 60th Streets was Fifth Avenue where they meet Central Park.

Figure 1. ***THRU*** Streets Study Area

These ten streets provide critical links to the transportation system in Midtown. Thirty-Sixth and 37th Streets provide connections to the Queens-Midtown Tunnel; 45th and 46th Streets are the first pair of streets north of 42nd Street where east-west travel is not obstructed by Grand Central Terminal; 49th and 50th Streets serve the M50 and M27 bus

routes and connect from the FDR Drive; 53rd and 54th Streets also connect from the FDR Drive and serve an especially high pedestrian activity resulting from the subway stations on 53rd Street at Fifth Avenue and Lexington Avenue ("E", "V", and "6" lines); 59th and 60th Streets connect to the Queensboro Bridge and support bus service (Q32).

Regulations were posted prohibiting turns off of the ***THRU*** Streets on weekdays between the hours of 10 AM and 6 PM at 42 intersections (later reduced to 29 after the program was modified when turns were permitted onto Park Avenue and 59th Street was removed from the program). These turn restrictions created protected intersections where pedestrians were able to cross the avenues without the conflicts created by turning vehicles. Motorists, however, were able to access ***THRU*** Streets from any intersecting avenue at any time. In addition, "split phasing" was introduced at 35 intersections (generally at the beginning and end of each ***THRU*** Street and at selected non-***THRU*** Street locations). Split phasing provides pedestrians with a street crossing period exempt from vehicle turning movements. Finally, DOT and NYPD focused their parking and construction enforcement efforts on these streets to ensure that lanes would be kept clear for crosstown traffic.

Strategies were also developed for the nine non-***THRU*** Streets (43rd, 44th, 47th, 48th, 51st, 52nd, 55th, 56th and 58th) to facilitate curbside loading and unloading activity by permitting commercial vehicle parking on both sides of a majority of the blocks and improve pedestrian safety by introducing split phasing at most interior avenues.

Program Elements

Program implementation consisted of the following elements.

Signs

Signs were newly designed and manufactured to clearly identify ***THRU*** Streets and inform motorists of the program and associated regulations. ***THRU*** Street signs were placed at and in advance of ***THRU*** Street intersections to help guide motorists to utilize appropriate streets for their travel needs (Figures 2 and 3).

Figures 2 and 3. Examples of ***THRU*** Street Signage

Advance promotional signs (Figure 4) were installed at locations throughout Midtown and elsewhere in the City to inform motorists of the program. The ***THRU*** Street signs are distinctive and large, and are designed to direct and encourage motorists traveling crosstown to utilize ***THRU*** Streets. Concise, clear phrasing and vivid colors were utilized to convey an image of quick movement on the ***THRU*** Streets. Information also was provided on Variable Message Signs (VMS) on City highways to inform motorists of the program (Figure 5). Standard turn restriction signs were installed at intersecting avenues and lane designation signs at split phasing intersections.

Figure 4. Advance Promotional Signs

Signs were developed for turn restrictions, split phasing, curbside regulations and truck routing. Supporting structures and mast arms were installed to enable signs to be placed at key intersections and other locations. In total, 778 signs were manufactured at a cost of $145,588. Installation of the signs by NYCDOT staff cost an additional $29,488.

Figure 5. VMS signs

Markings

Lane markings were installed at Split Phasing locations to designate appropriate turn lanes and through lanes (Figure 6). Markings were added on East 45th Street to designate a fourth lane (two parking and two moving lanes). Turn markings were scarified (removed) from locations on ***THRU*** Streets where turns previously had been permitted or required, such as on the 49th/50th Street Transitway (49thand 50th Streets at Third and Sixth Avenues). On ***THRU*** Streets, 71,045 linear feet of markings were installed, on Non-***THRU*** Streets, 35,741 linear feet of markings were installed for a program total of 106,786 linear feet and a total cost of $21,167.

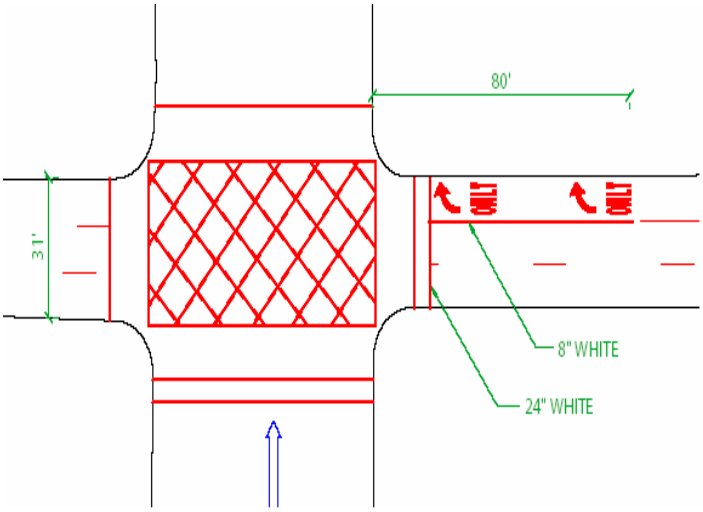


Figure 6. Typical roadway markings at intersection with split phasing

Signals

Split phasing improves pedestrian safety by providing pedestrians with a street crossing period free of conflicts with turning vehicles. It divides a traffic signal cycle into three phases: 1) cross-street is stopped/avenue goes; 2) cross-street through traffic goes/turning vehicles and avenue are stopped; 3) cross-street through and turning vehicles go/avenue is stopped (Figures 7 & 8).

Figure 7. Split Phasing Signal

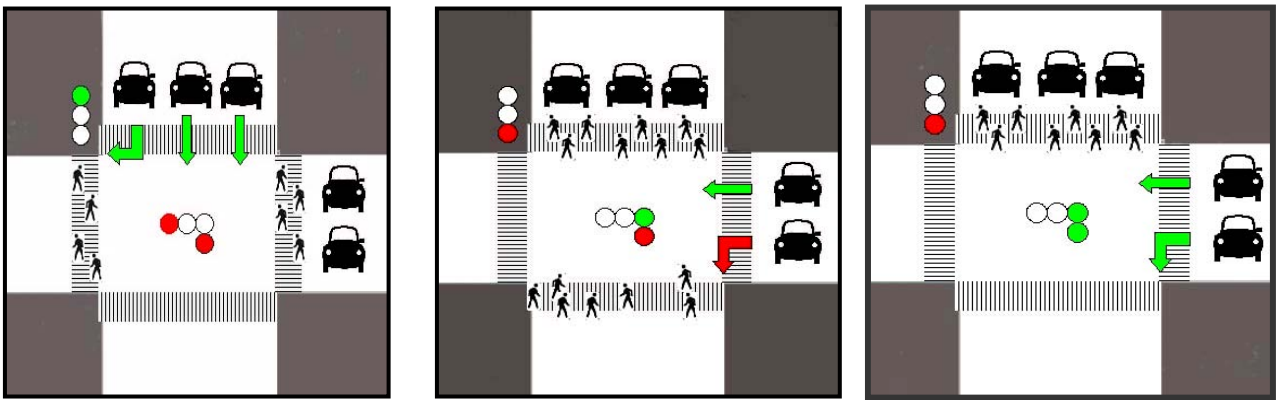


Figure 8. Split Phase Cycle. In the first image, traffic on the avenue moves and cross street traffic is stopped. In the second image, the avenue is stopped, and vehicles on the cross streets can travel straight and turning vehicles are stopped. Pedestrians can cross the avenue at both crosswalks. In the third image, both straight and turning movements are permitted from the cross street while pedestrians can continue to cross at the non-turning crosswalk only.

As part of the pedestrian improvement element of the program, international pedestrian crossing ("Hand/Man") signals were installed at the crossing where the pedestrian is protected by the split phasing. Split phasing was originally installed at 35 locations in the study area - 16 intersections with split phasing on ***THRU*** Streets at start and end points, and 19 intersections with split phasing on non-***THRU*** Streets at interior avenues. Split

phasing was removed from seven intersections during the initial phase of the program. Subsequently, split phasing was restored at two intersections (East 46th Street at Third Avenue, East 54th Street at Third Avenue) after it was determined that traffic operations would not be adversely affected. The cost for the signals was $322,010.

Curbside Regulations

For the ***THRU*** Streets, curbside regulations were generally unchanged with "No Standing" on one side and truck loading and unloading on the opposite side. On non-***THRU*** Streets between 42nd and 60th Streets, additional truck loading regulations and multi-space Muni-meters were installed to permit commercial vehicle parking on both sides of the street for a majority of the blocks. This change created up to 150 additional truck loading spaces.

Enforcement

The enforcement component of the program was a joint effort of DOT and NYPD. The program - especially at its outset - required a strong enforcement presence. NYPD deployed 152 officers on ***THRU*** Streets for intersection control and parking enforcement. Most of the intersection control agents were removed on October 31, 2002. DOT deployed 50 parking enforcement agents (two overlapping tours of 25) to enforce curbside regulations and five construction inspectors to monitor building construction and street openings. These additional resources were removed after January 10th.

Impact Assessment

In order to determine the effectiveness of the ***THRU*** Streets program in improving the speed and reliability of traffic flow in Midtown Manhattan, an extensive amount of data (see Table 1) was collected on several occasions. Data collection was conducted:

- before the program initiation in October 2002,
- between the week before Thanksgiving and "tree-lighting week" (from November 18 to December 6, 2002),
- during the height of the holiday season (from December 9 to December 20, 2002),
- during the period of relatively stable traffic operations in the remainder of the year (January, June and October, 2003).

Table 1. Summary of Data Collection

Parameter	Objective
Travel times/vehicle speeds	How quickly vehicles traverse midtown streets
Vehicle volumes	How many vehicles the traffic network accommodates
Curb clear times	Level of compliance by motorists with curbside regulations, which enable curbside lanes to be available to moving traffic
Split-phase signal operations	Determine degree of pedestrian compliance with regulations to improve safety and measure the vehicle throughput at each of these locations
Turning Movements	Measure compliance of turn restrictions
Accident experience	Determine the safety impacts

THRU Streets - Travel Times

As shown in Figure 9, average travel times on the nine ***THRU*** Streets decreased by 25%, to 6 minutes, 31 seconds from 8 minutes, 40 seconds. Improvement occurred for both eastbound and westbound travel. Travel times decreased on the four eastbound ***THRU*** Streets by nearly two minutes, to 6 minutes, 49 seconds from 8 minutes, 48 seconds. On the five westbound ***THRU*** Streets travel times decreased by over two minutes to 6 minutes, 16 seconds from 8 minutes, 33 seconds.

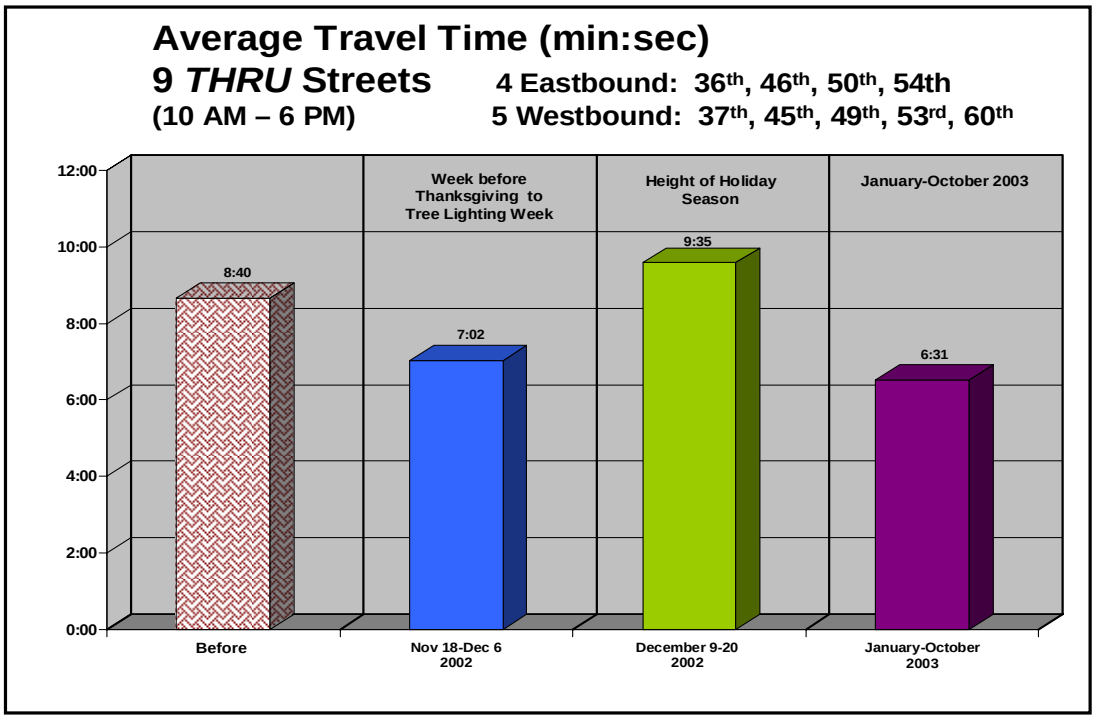


Figure 9

As shown in Table 2, all of the nine ***THRU*** Streets exhibited decreases in overall travel time. The most dramatic decrease was on 45th Street where the travel time savings was nearly 50% (to 5 minutes, 42 seconds from 11 minutes, 12 seconds). The smallest improvement was on 50th Street where travel times decreased by 7%.

In addition, the ***THRU*** Streets improved reliability for crosstown travel, as the fluctuation in travel time was reduced by 38% to only 2 minutes, 37 seconds (between 5 minutes, 31 seconds and 8 minutes, 8 seconds), whereas the fluctuation under pre-implementation conditions was 4 minutes, 15 seconds (between 6 minutes, 57 seconds and 11 minutes, 12 seconds).

Table 2. Changes in Travel Times on *THRU* Streets

THRU Street	**Travel Time (min:sec) Pre-Implementation 2002**	**Travel Time (min:sec) Post-Implementation 2003**	**Change (min:sec)**	**% Change**
36th Street	9:28	8:08	-1:20	*-14.0%*
37th Street	7:34	6:44	-0:50	*-10.8%*
45th Street	11:12	5:42	-5:30	*-49.1%*
46th Street	9:16	5:44	-3:32	*-38.1%*
49th Street	9:58	7:29	-2:29	*-25.0%*
50th Street	7:08	6:37	-0:31	*-7.4%*
53rd Street	6:57	5:44	-1:13	*-17.6%*
54th Street	9:20	7:02	-2:18	*-24.5%*
59th Street*	7:26	6:48	-0:38	*-8.6%*
60th Street	7:03	5:31	-1:32	*-21.7%*
Average for 9 THRU Streets	***8:40***	***6:31***	***-2:09***	***-24.7%***

****59th Street not included in average.***

Travel Speeds/Segment Analysis

As shown in Figure 10, there was considerable improvement in travel speeds compared to pre-implementation conditions. Forty-five street segments were analyzed along ***THRU*** Streets both prior to implementation and in 2003. Exclusive of 59th Street, thirty of these segments exhibited speeds in a higher speed range than before implementation, six

showed speeds in a lower range, and the remaining nine exhibited speeds in the same range as before implementation.

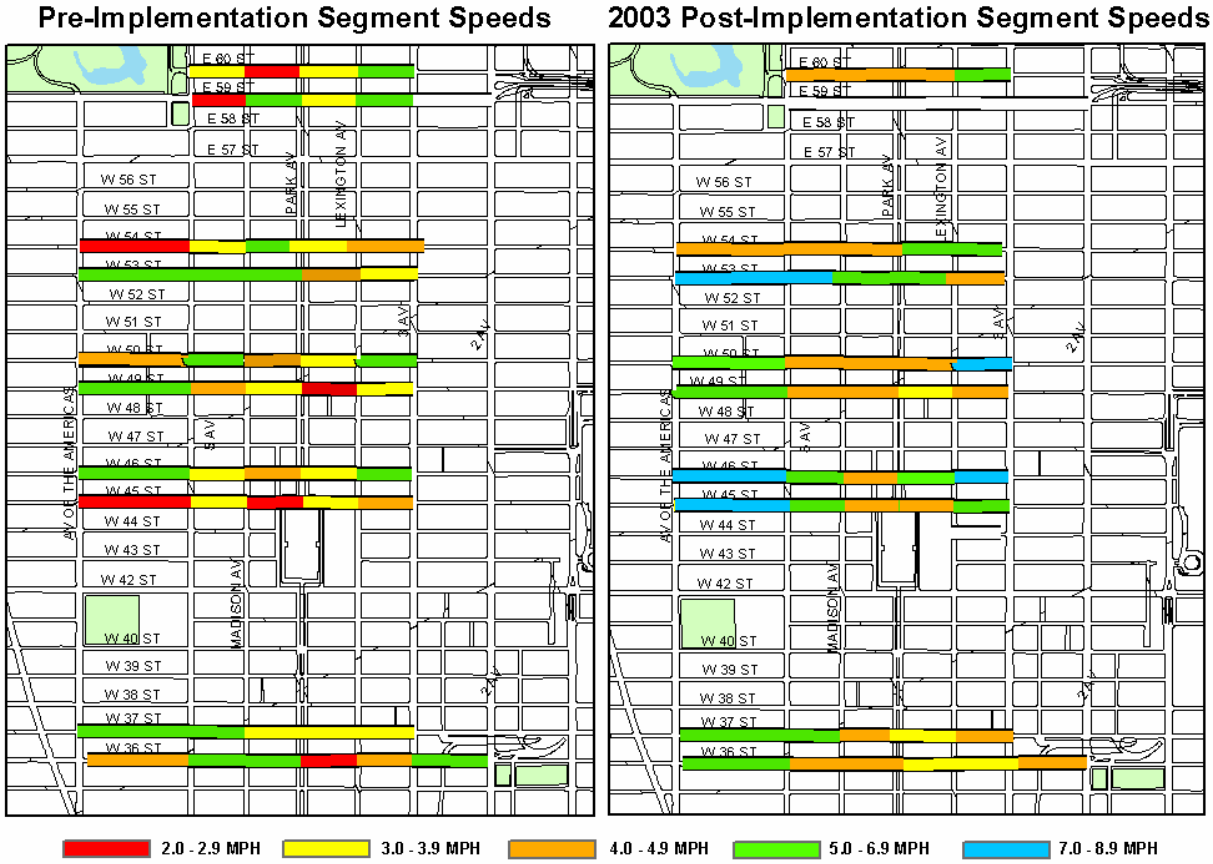


Figure 10

Table 3. Travel Speeds, by Street Segment

Speed Range (mph)	Number of Segments Pre-Implementation, 2002	Number of Segments Post-Implementation, 2003
2.0 – 2.9	6	0
3.0 – 3.9	15	4
4.0 – 4.9	9	21
5.0 – 6.9	15	14
7.0 – 8.9	0	6

In 2003, 41 of 45 segments exhibited speeds above 4.0 mph, a significant improvement compared to pre-implementation conditions, when only 24 of these 45 segments exhibited speeds above 4.0 mph. Additionally, six segments displayed speeds above 7.0 mph whereas previously no segments operated above 7.0 mph. There were no segments exhibiting speeds lower than 3.0 mph, whereas previously there were six such segments.

THRU Streets – Vehicle Volumes

As shown in Figure 11, total hourly vehicle volumes for the nine ***THRU*** Streets increased by nearly 16% to 4,854 vph in 2003 from 4,187 vph prior to program implementation. Volumes on both the eastbound and westbound ***THRU*** Streets exhibited similar percentage increases (18% and 15%, respectively).

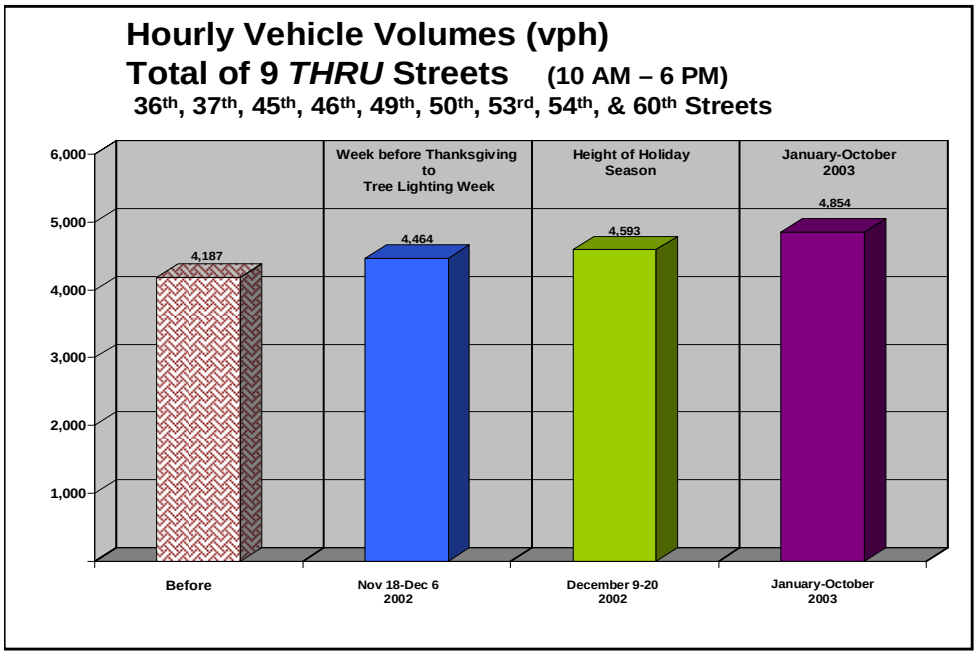


Figure 11

As shown in the Table 4, seven of the nine ***THRU*** streets exhibited volume increases. The only exceptions were 49th Street (a 1% decrease) and 53rd Street (a 10% decrease). The largest percentage increases were on 37th and 60th Streets, which exhibited increases of approximately 33% each.

Table 4. Changes in Vehicles per Hour (vph) on *THRU* Streets

THRU Street	**Pre-Implementation 2002 Volume (vph)**	**Post-Implementation 2003 Volume (vph)**	**Change**	**% Change**
36th Street	530	594	+64	+12.1%
37th Street	512	679	+167	+32.6%
45th Street	349	423	+74	+21.2%
46th Street	377	450	+73	+19.4%
49th Street	553	547	-6	-1.1%
50th Street	449	518	+69	+15.4%
53rd Street	501	449	-52	-10.4%
54th Street	373	473	+100	+26.8%
59th Street*	448	642	+194	+43.3%
60th Street	543	722	+179	+33.0%
Total for 9 THRU Streets*	***4,187***	***4,854***	***+667***	***+15.9%***

59th Street not included in total.

The concomitant increases in vehicular volume and decreases in travel time demonstrate the effectiveness of the ***THRU*** Streets program. The results indicate that delays and congestion have been reduced, thereby enabling the street network to process more vehicles and enabling vehicles to travel more reliably and efficiently.

Accident Reduction

In order to ensure a valid comparison of accident frequency under normal conditions before and after the program's implementation, data from January 1 to August 31, 2001 (prior to the events of 9/11/2001) is compared to data from January 1 to August 31, 2003.

As shown in Figure 12, total accidents on the ***THRU*** Streets decreased 31%, to 193 from 279, including a reduction of 9% in pedestrian accidents (to 74 from 81), a 39% reduction

in non-pedestrian accidents (to 102 from 168), and a 43% reduction in accidents involving bicyclists (to 17 from 30). The most dramatic improvement was on 54th Street, where total accidents decreased 63% to 18 from 48, pedestrian accidents decreased 73% to 4 from 15, non-pedestrian accidents decreased 52% to 13 from 27, and bicyclist accidents decreased 83% to 1 from 6.

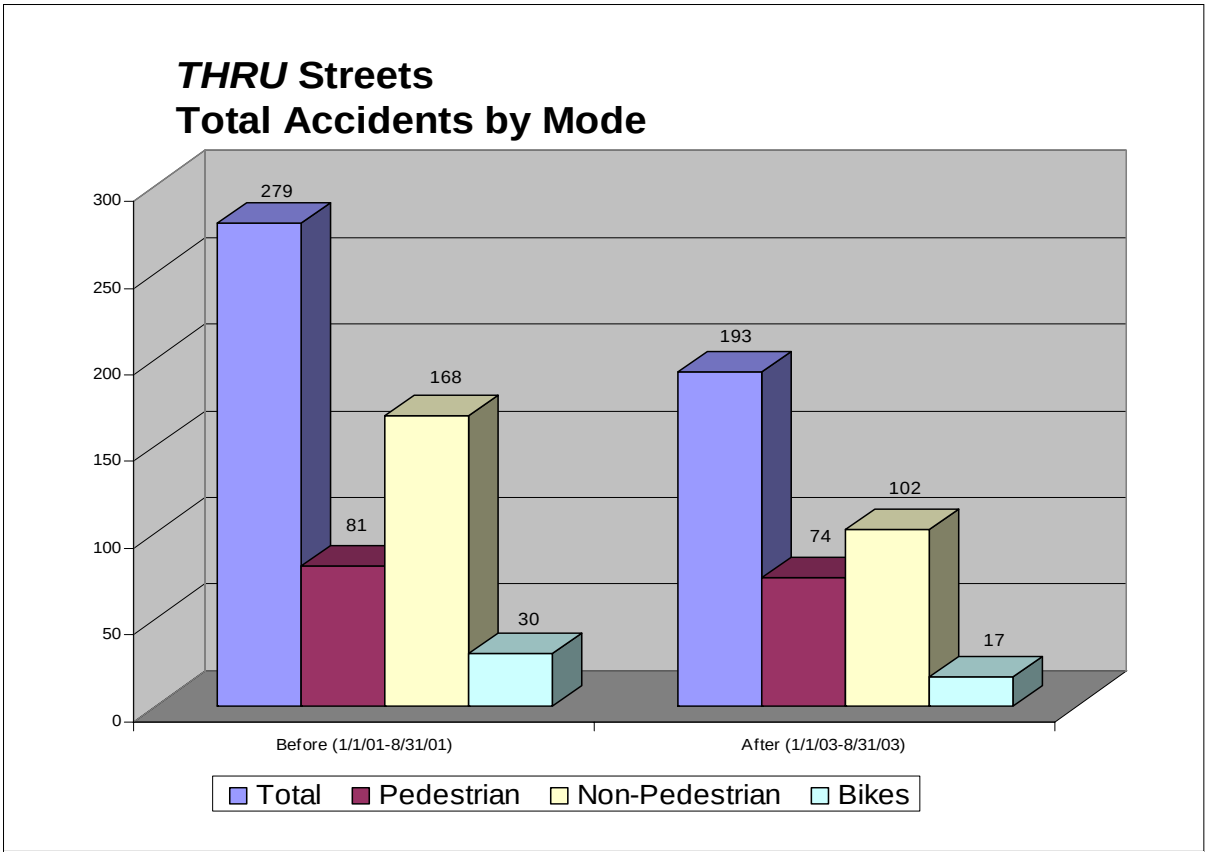


Figure 12

As shown in Figure 13, on the non-***THRU*** Streets, total accidents decreased 43%, to 119 from 208. Pedestrian accidents decreased 8%, to 54 from 59. Non-pedestrian accidents decreased 59%, to 52 from 127. Bicyclist accidents decreased 41%, to 13 from 22.

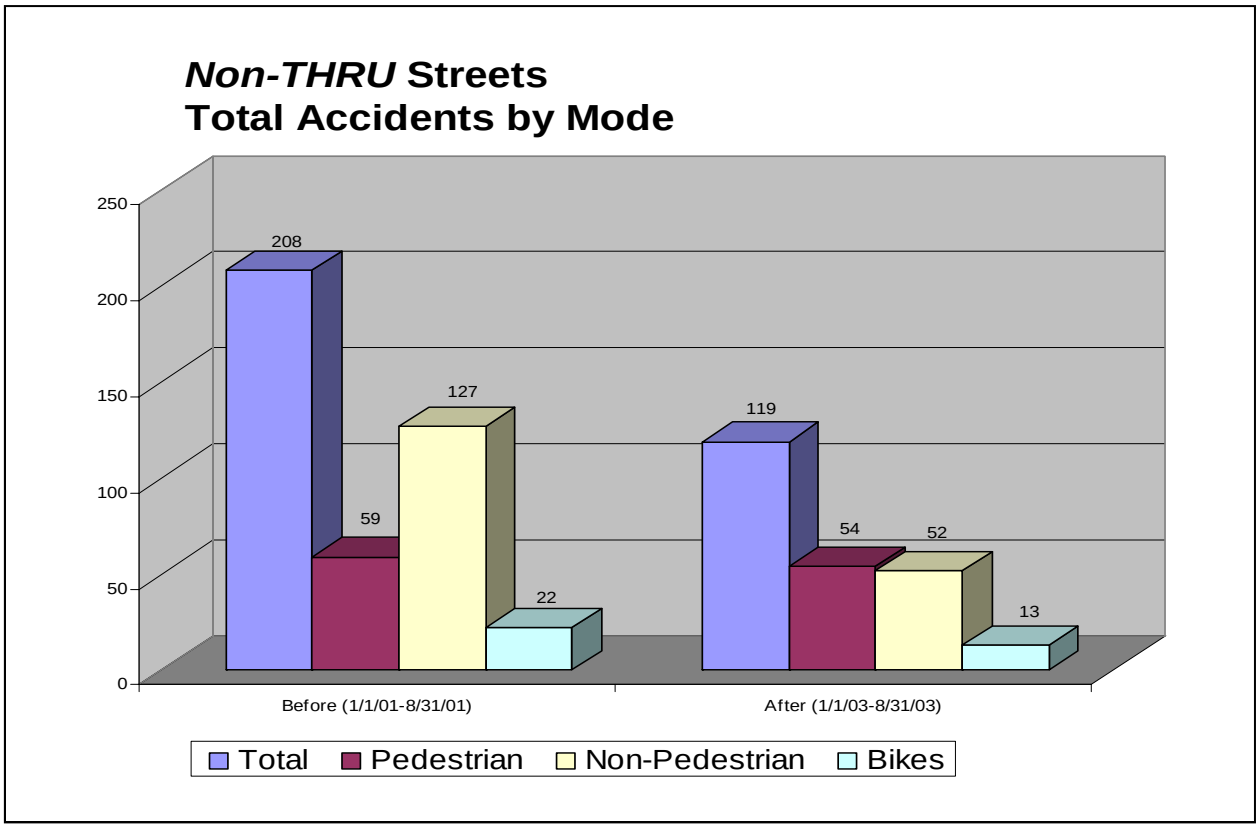


Figure 13

As shown in Figure 14, the split signal phase locations yielded the best overall reductions in accidents involving pedestrians and bicyclists. Total accidents at these locations decreased 38%, to 78 from 125. Pedestrian accidents decreased 29%, to 35 from 49. Non-pedestrian accidents decreased 37%, to 38 from 60. Bicyclist accidents decreased 69%, to 5 from 16.

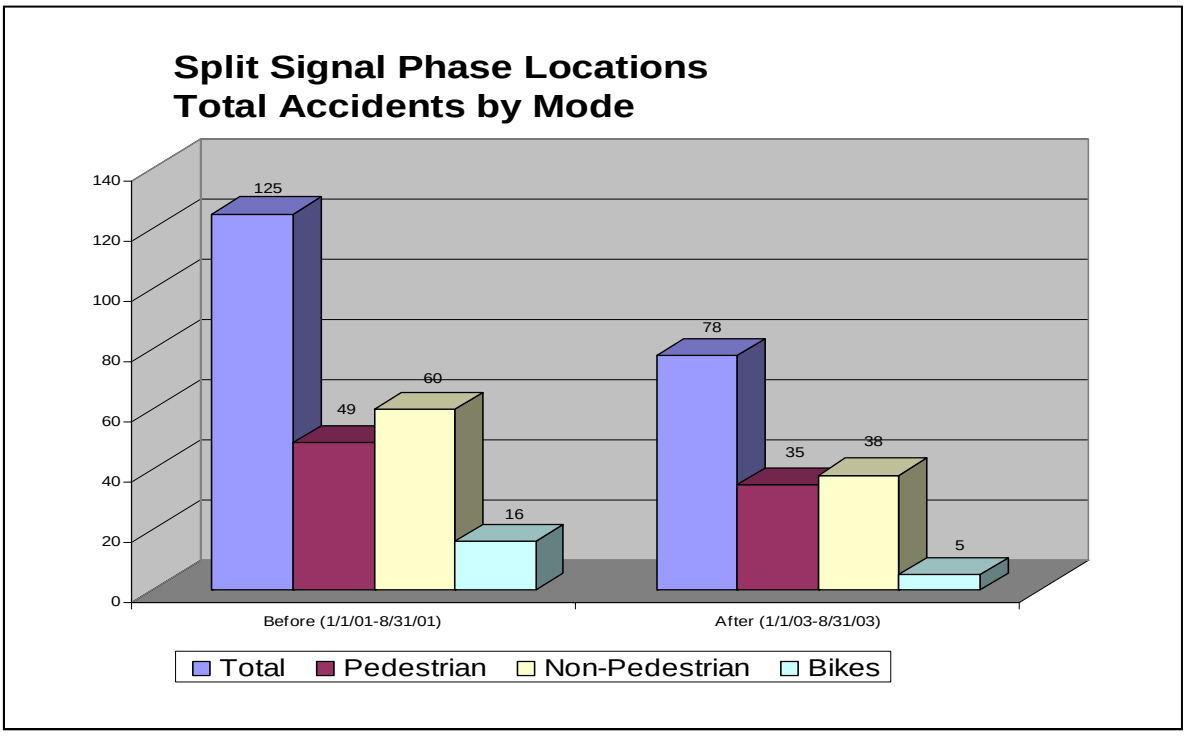


Figure 14

Non-***THRU*** Streets - Travel Times

As shown in Figure 15, average travel times on the six non-***THRU*** Streets (39th, 40th, 47th, 48th, 55th and 56th Streets) improved by 11% (to 7 minutes, 59 seconds from 8 minutes, 57 seconds) as compared to pre-implementation conditions. Both eastbound and westbound streets exhibited decreases in travel times (8% and 13%, respectively). Four of the six streets exhibited travel time improvements with 39th, 40th and 47th Streets exhibiting travel time savings of between 17% and 26%. Travel time increased on 55th and 56th Streets, by 5% and 2%, respectively. This overall improvement was obtained in spite of the relaxation in parking regulations that now allows truck loading and unloading to occur on both sides of the non-***THRU*** Streets. Poor compliance with the No Standing regulation that previously existed on one side of the non-***THRU*** streets during the pre-implementation period constrained travel times.

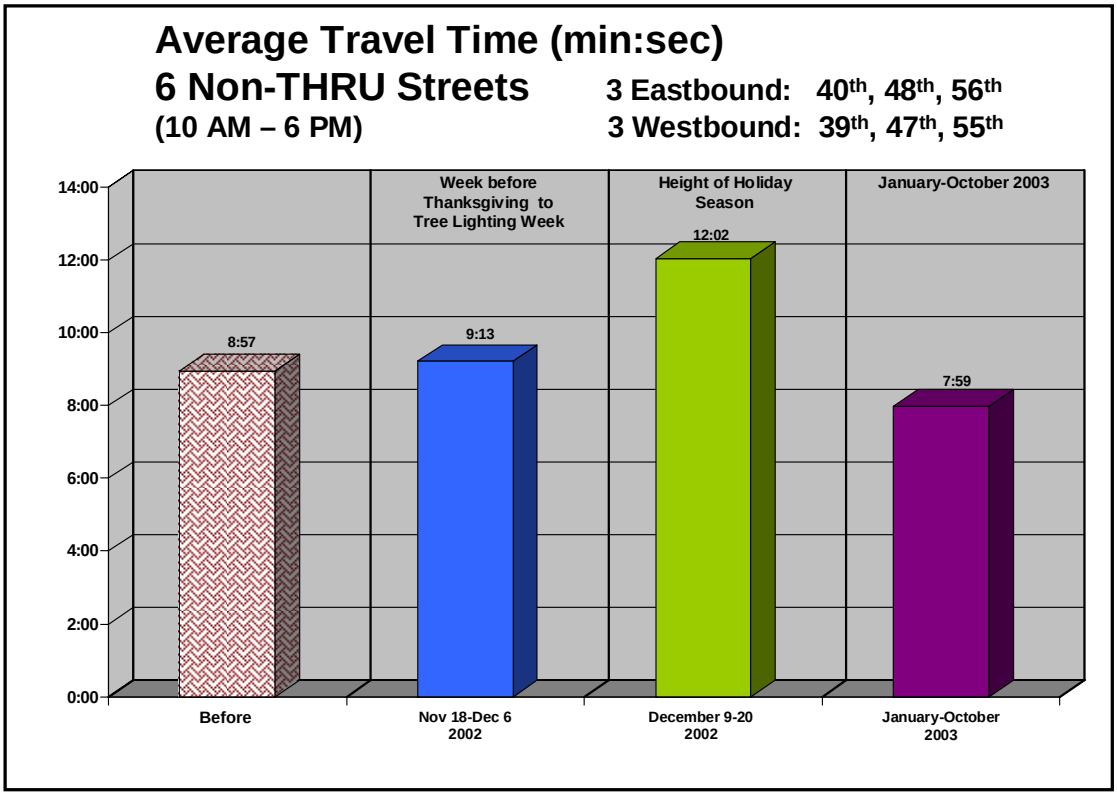


Figure 15

Non-***THRU*** Streets – Vehicular Volumes

As shown in Figure 16, the vehicle volumes on the six non-***THRU*** Streets increased slightly as compared to the pre-implementation period. This could be attributable to the general improvements to the efficiency of the Midtown street network as the ***THRU*** Streets more clearly managed the specific purpose of individual streets.

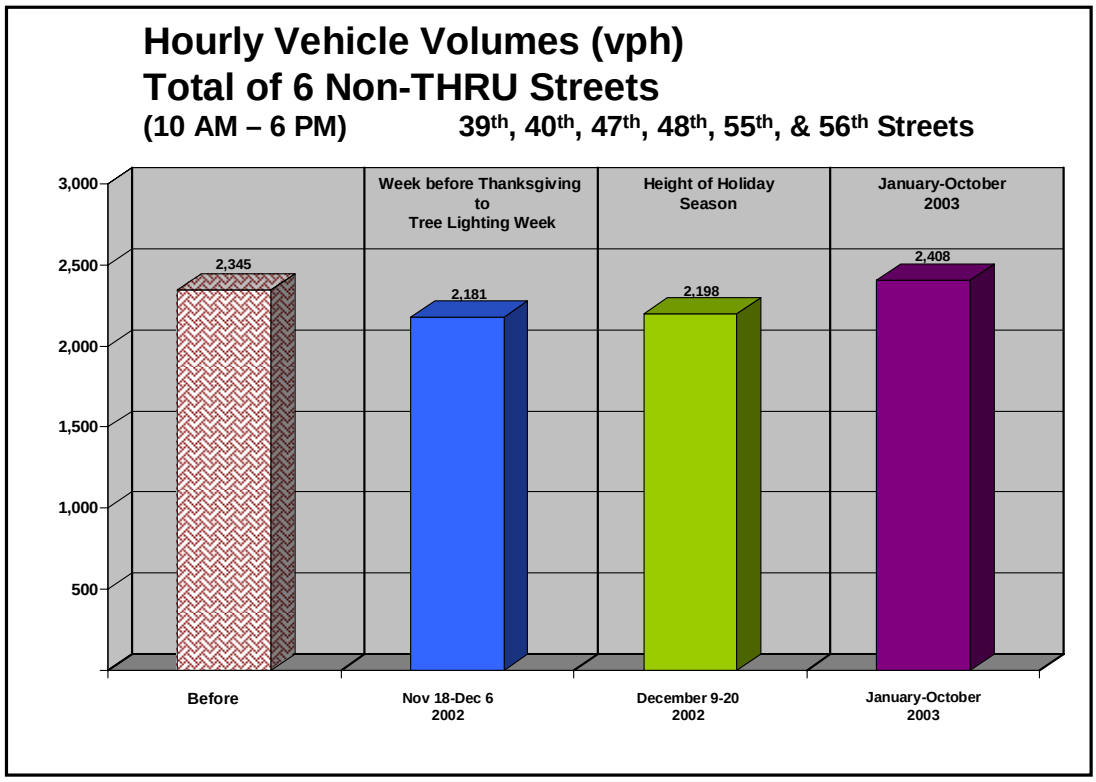


Figure 16

Motorist Compliance/Turning Restrictions

A primary component of the ***THRU*** Streets initiative is turn restrictions. These restrictions were implemented to reduce conflicts and improve vehicular throughput. Motorists' compliance with these regulations is essential in order for the program to be successful. In the first three weeks of the program there were high levels of enforcement, and compliance with the prohibition of turns off the ***THRU*** Streets was extremely high (averaging 98% while ranging from 95% to nearly 100%). During 2003, when the level of enforcement was considerably lower, compliance remained high (averaging 93% and ranging from 91% to 95%). Prior to the implementation of ***THRU*** Streets, an average of 20% of vehicles made turns onto the avenues from these crosstown streets. Under the ***THRU*** Streets program, only 7% of the vehicles are making turns thereby allowing the ***THRU*** Streets to process more vehicles and allowing the crosstown speeds to increase.

Split Phasing

Overall, the operation of the split phasing of the traffic signals on the ***THRU*** Streets, as well as those on the non-***THRU*** Streets was very good compared to the pre-implementation period. More total vehicles, and more turning vehicles, were processed with nearly non-existent queues. Approximately 6% more total vehicles and 18% more turning vehicles were processed. Total queued vehicles decreased at each of the five intersections surveyed with the average number of vehicles in the queues decreasing to 1.6 from 4.6, and the average number of vehicles in the turning queue decreasing to 0.5 from 1.0. In addition, there were fewer instances of illegally parked vehicles standing in the turning lanes approaching the split signals.

Pedestrian Activity

Significant decreases in pedestrian-vehicle conflicts were found at the split signal locations. At the eight intersections studied, pedestrian-vehicle conflicts were reduced an average of 86% after the split phasing was installed. Pedestrian-vehicle conflicts (a measure of the number of pedestrians crossing when turning motorists had a green indication) averaged only 1.7 per signal cycle at the split phase locations, compared to the 12.2 conflicts per cycle which existed prior to implementation.

This is especially significant when the pedestrian crossings at the recessed crosswalk locations are examined. At these locations, an average of 5.4 pedestrians per cycle continued to go around the pedestrian barriers installed at the corners and cross at the intersection (where the crosswalk had been removed) rather than walk to the relocated crosswalk. Overall, the average number of illegal pedestrian crossings was 3.1 per cycle at the split phase locations, 52% fewer than the 6.4 per cycle at the recessed crosswalk locations.

Curb Clear

Prior to implementation, 31% of all block faces on the nine ***THRU*** Streets were entirely free of illegally parked or standing vehicles. During this time, 45th and 54th Streets had a curb clear rate of zero. As shown in Figure 17, in 2003, curb clear rates improved slightly (to 35% from 31%), with 37th Street showing the best curb clear rate of 76%.

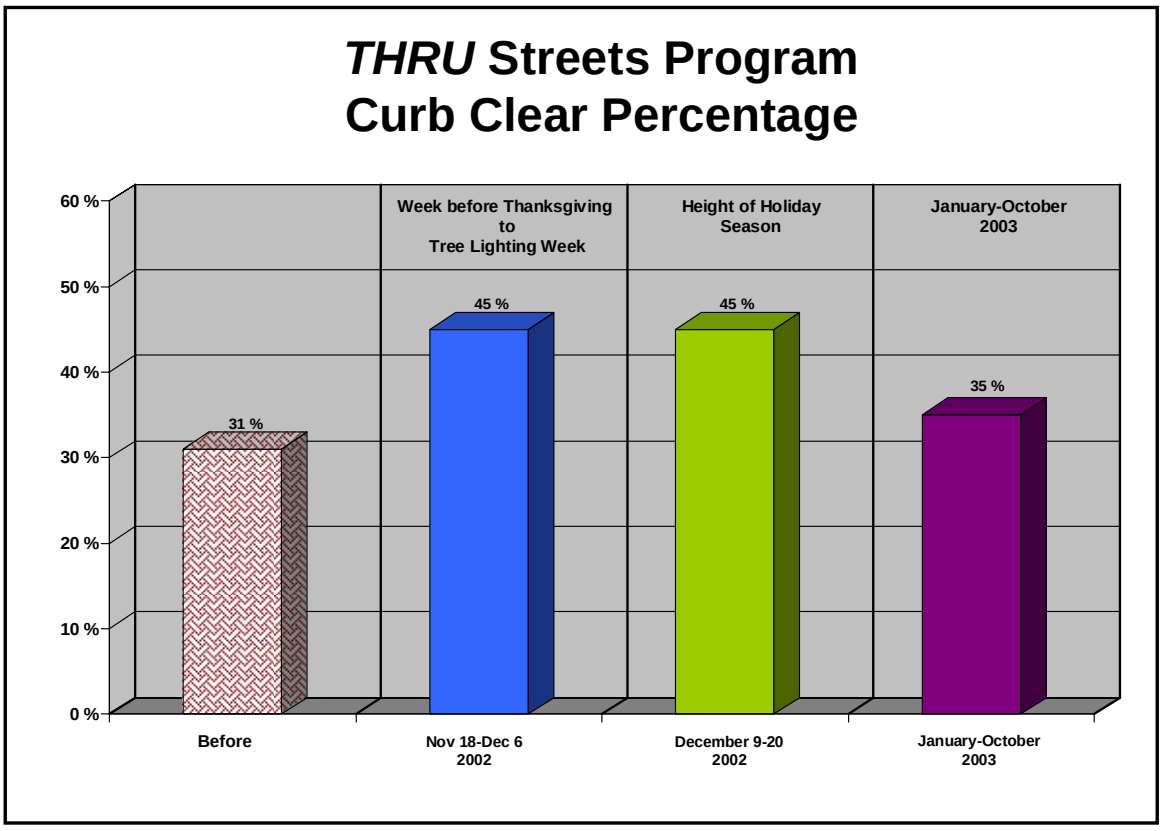


Figure 17

Conclusions

- The ***THRU*** Streets program has demonstrated sustained success throughout its first year of operation. It has:
  - reduced travel times,
  - increased vehicular capacity,
  - improved pedestrian safety.

- Appropriate adjustments were successfully made to the program, and any needed additional adjustments will be made as specific issues arise.

- Based upon extensive monitoring and analysis during the past year, it is recommended that this program be continued on a permanent basis.

- 59th Street, which was removed as a ***THRU*** Street due to a major construction project, may be re-introduced into the program following completion of the project.

Appendix I

Project Development

Appendix I
Project Development

The ***THRU*** Streets concept was finalized in early Spring 2002. After consultation with NYPD, the concept was expanded to include two streets south of 42nd Street – 36th and 37th Streets. In April 2002, Mayor Michael Bloomberg endorsed the program. A DOT Working Group was established immediately thereafter to coordinate completion of final design and implementation of all program elements. The Working Group consisted of representatives from divisions within the Traffic Bureau (Signals, Parking, Planning, and Signs and Markings) and the Offices of Construction Mitigation and Coordination, the Manhattan Borough Commissioner and the Chief of Staff. Resource needs were identified in May 2002 and the program's design was completed in July 2002. These program elements included an outreach and implementation schedule, signage and markings plans, and split phase signal locations.

Street Management Philosophy

The one-way crosstown streets in Midtown have generally been managed using a similar framework of traffic controls. Typically, the streets are three lanes wide, with one curb lane dedicated to truck loading and the opposite curb lane reserved for traffic flow. Thus, during weekdays, two travel lanes are provided. Some special measures for the crosstown streets that had been instituted in the past include the 49th/50th Street Transitway and PM peak period turn restrictions off of 59th Street to improve travel to the Queensboro Bridge.

The ***THRU*** Streets Program enhances the management of Midtown Manhattan streets. This traffic management strategy is designed to stabilize the movement of east-west vehicular traffic in Midtown Manhattan, improve reliability of bus service, enhance conditions for pedestrians at crosswalks, and expand opportunities for curbside truck loading and unloading. Crosstown streets are designated for specific functions – ***THRU*** Streets to facilitate the movement of crosstown traffic, non-***THRU*** Streets for localized traffic circulation and expanded goods delivery.

Curbside Regulations

For the ***THRU*** Streets, curbside regulations were generally unchanged with "No Standing" on one side and truck loading and unloading on the opposite side. On non-***THRU*** Streets between 42nd and 60th Streets, additional truck loading regulations and Multi-space Muni-meters were installed to permit commercial vehicle parking on both sides of the street for a majority of the blocks. This change created up to 150 additional truck loading spaces.

Enforcement

The enforcement component of the program was a joint effort of DOT and NYPD. The program - especially at its outset - required a strong enforcement presence. NYPD deployed 152 officers on ***THRU*** Streets for intersection control and parking enforcement. Most of the intersection control agents were removed on October 31, 2002. DOT deployed 50 parking enforcement agents (two overlapping tours of 25) to enforce curbside regulations and five construction inspectors to monitor building construction and street openings. These additional resources were removed after January 10th.

Meetings with Stakeholders

As many businesses, citizens and community groups would be affected by the significant change in traffic patterns, turn restrictions and curbside regulations, meetings were convened with project stakeholders. The Manhattan Borough Commissioner's Office served as the liaison between the Department and these groups. Most of these meetings were held prior to implementation of the program and follow-up meetings were held with concerned groups after program implementation. These groups included:

US Postal Service	General Contractors Association
Parking Garage Operators	Hotel Association of New York
Taxi Industry Representatives	Rockefeller Center
Local Elected Officials	Transportation Advocacy Groups
Business Improvement Districts	Messenger/Courier Association
Sloan-Kettering Memorial Hospital	Trucking Industry (UPS, FedEx, etc.)
Community Boards 5, 6 and 8	Messenger/Courier Association

In addition, coordination meetings were held with government agencies including the New York City Department of Sanitation, the New York City Department of Business Services, the Mayor's Community Assistance Unit, the Taxi and Limousine Commission, and MTA/New York City Transit.

Public Information

The Agency conducted a public information campaign to notify community groups, businesses, residents, motorists, tourist attractions, transit operators and the trucking industry that the ***THRU*** Streets program was being implemented.

Mayor Michael R. Bloomberg, Police Chief Michael J. Scagnelli and Commissioner Iris Weinshall conducted a news conference in Midtown Manhattan on September 30, 2002 to announce the program (Figure I-1). The event was covered by local broadcast and print media.

Figure I-1. September 30, 2002 news conference

In addition, NYCDOT issued a press release and placed detailed information on its website beginning September 30, 2002. (***THRU*** Streets information is still available on the website.) Also, operators at DOT's Customer Service Phone Center were thoroughly briefed on the program. Finally, the Manhattan Borough Commissioner's Office prepared and distributed brochures and flyers throughout Midtown (attached).

For more information please visit DOT's Website at www.nyc.gov/calldot or dial 212/718 CALLDOT (225-5368)

or

Call the TLC's customer service hotline 212-NYC-TAXI or visit TLC's Website at www.nyc.gov/taxi

THRU STREETS

DEPT OF TRANSPORTATION

Midtown Thru Streets Initiative

Turns now prohibited between 3rd and 6th Avenue off of the following streets:

- 36th and 37th Streets
- 45th and 46th Streets
- 49th and 50th Streets
- 53rd and 54th Streets
- 59th and 60th Streets

Weekdays 10AM - 6PM

New York City Department of Transportation

New York City Taxi and Limousine Commission

Midtown Thru Streets Program

On September 30, 2002, Mayor Bloomberg and representatives from the Department of Transportation and the Police Department announced **Thru Streets**, a new traffic mitigation plan in Midtown that seeks to make cross-town travel more reliable for vehicles and improve street safety for pedestrians.

The plan designates five pairs of streets between 34th Street and 60th Street as Thru Streets. These pairs of streets are **36th Street** and **37th Street**, **45th Street** and **46th Street**, **49th Street** and **50th Street**, **53rd Street** and **54th Street**, **59th Street** and **60th Street**.

Starting on **October 15th**, regulations will prohibit turns from Thru Streets between **3rd and 6th Avenues** on **weekdays** between the hours of **10 am and 6 pm**, with a few exceptions.

The no-turn regulations will provide an incentive to drivers who seek a reliable route across town.

Thru Streets are part of a new City initiative to improve the flow of traffic on congested midtown roads.

Turns will be prohibited **off** of these streets from **10AM to 6PM on weekdays** only.

While some trips may be quicker, others may be extended in order to reach your destination.

THRU STREETS
DEPT OF TRANSPORTATION

Midtown Thru Streets Initiative

Turns now prohibited between 3rd and 6th Avenue **off** of the following streets:

- **36th and 37th Streets**
- **45th and 46th Streets**
- **49th and 50th Streets**
- **53rd and 54th Streets**
- **59th and 60th Streets**

Thru Streets seek to make cross-town travel more reliable for vehicles and improve street safety for pedestrians.

Thru Streets are part of a new City pilot initiative to improve the flow of traffic on congested midtown roads.

No-turn regulations will provide an incentive to drivers who seek a reliable route across town.

Turns will be prohibited **off** of these streets from **10AM to 6PM on weekdays** only, starting October 15, 2002.

Visit DOT's Website at www.nyc.gov/calldot
Got a transportation problem/question/complaint? Dial 212 or 718
TTY Deaf or Hearing-Impaired, Dial 212/442-9488

CALL DOT *225-5368

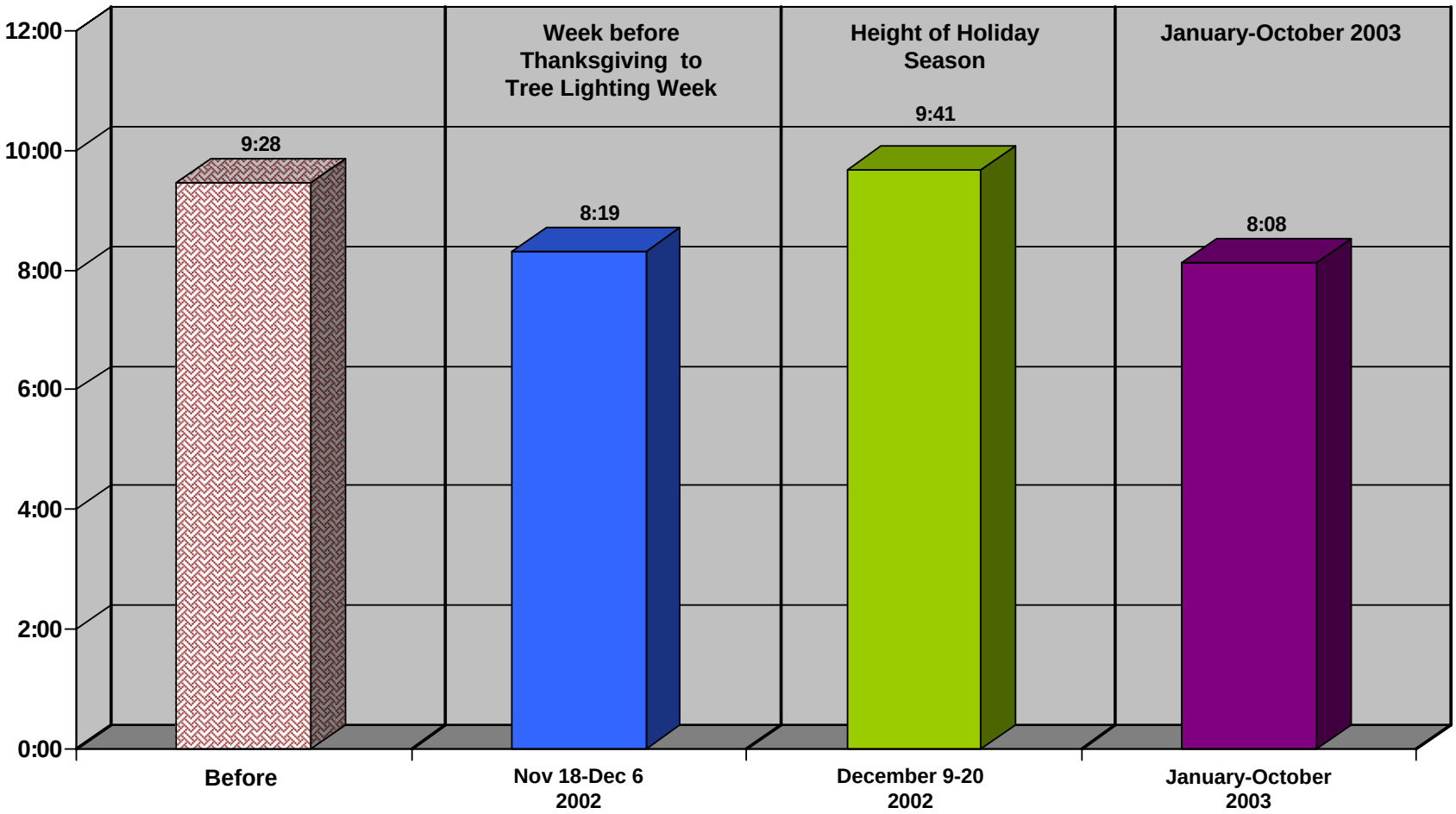
New York City Department of Transportation

New York City Police Department

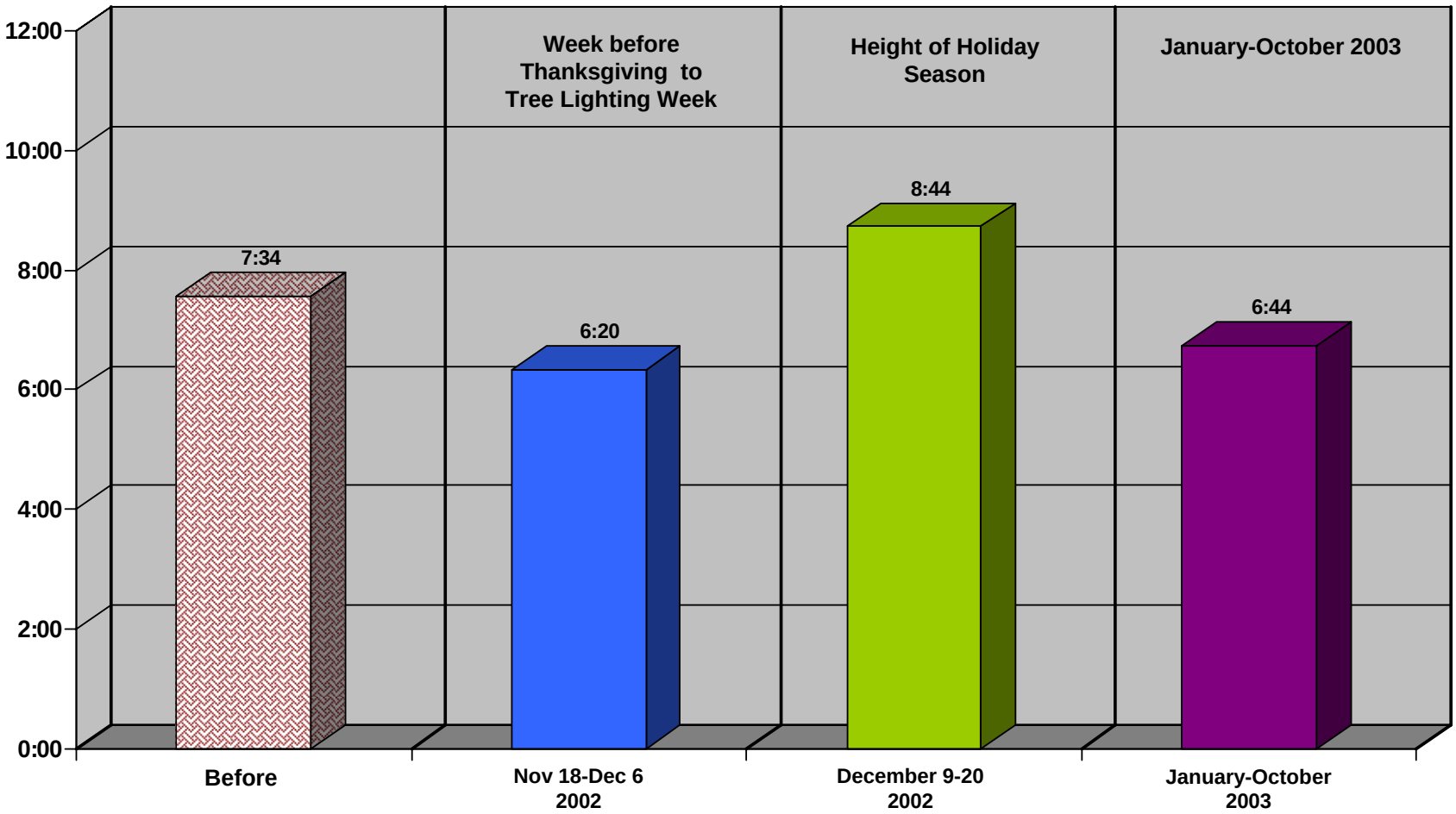
Appendix II

Manhattan ***THRU*** Streets Travel Times

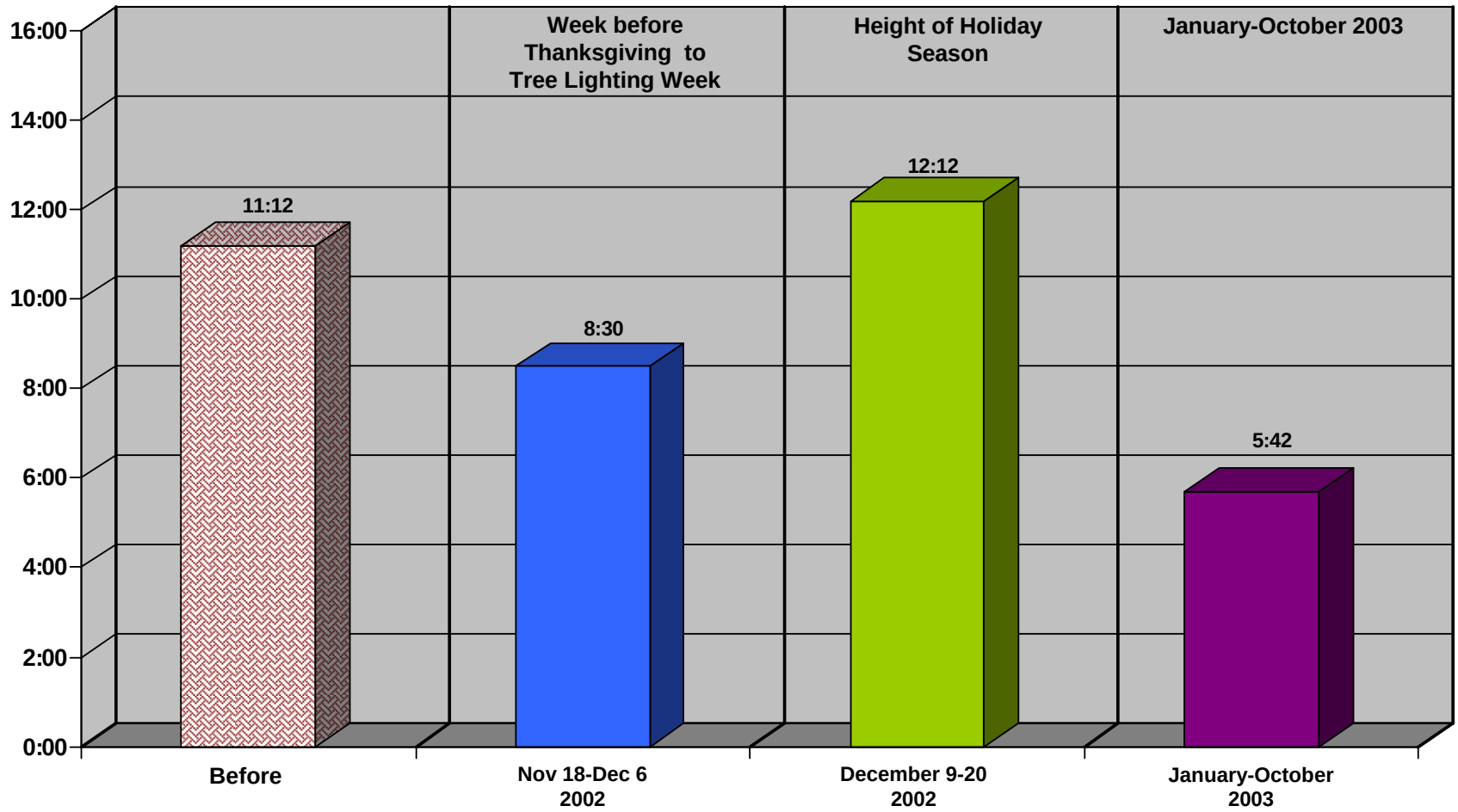
Average Travel Time (min:sec)
36th Street (eastbound)
(10 AM – 6 PM)



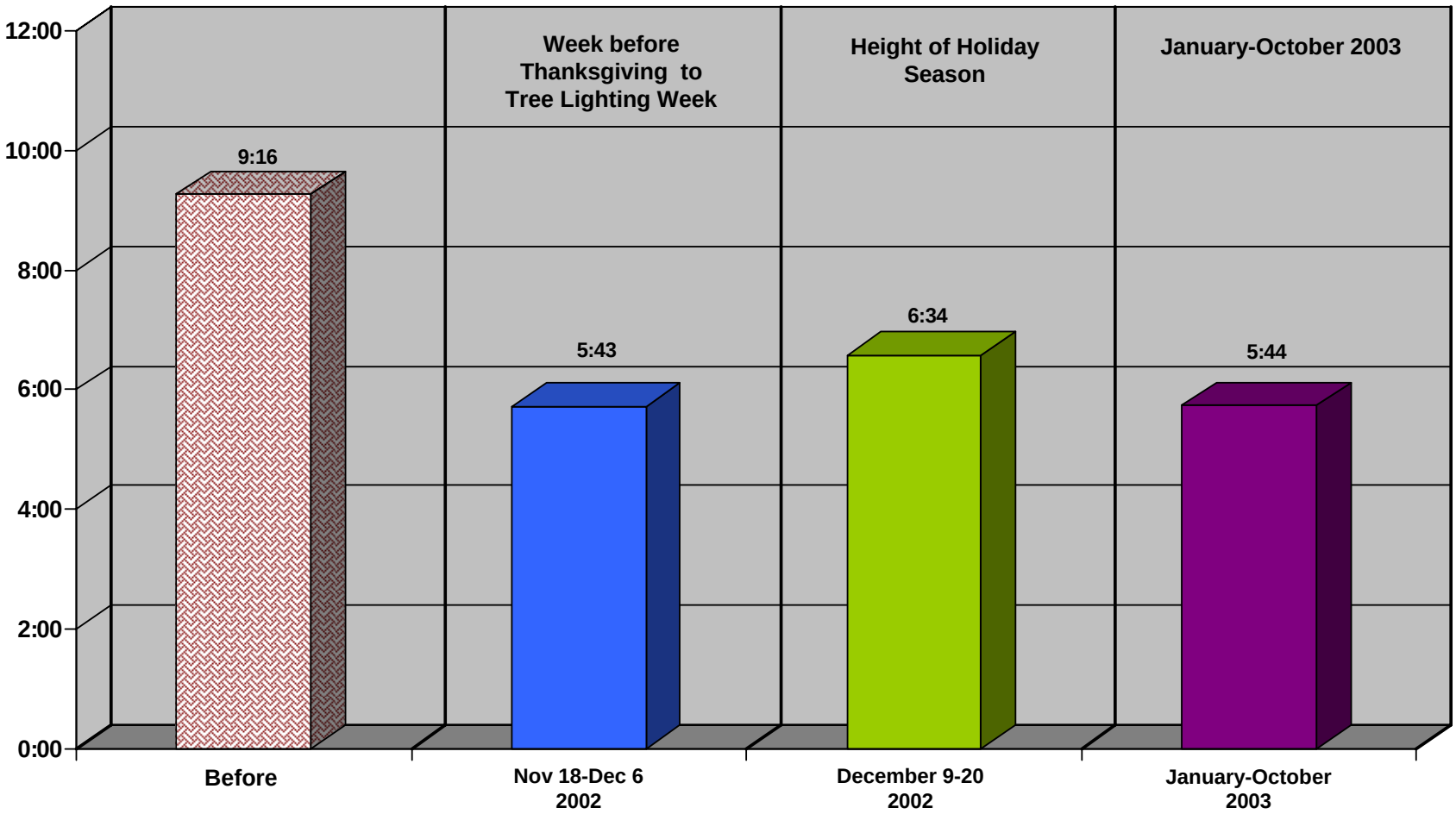
Average Travel Time (min:sec)
37th Street (westbound)
(10 AM – 6 PM)



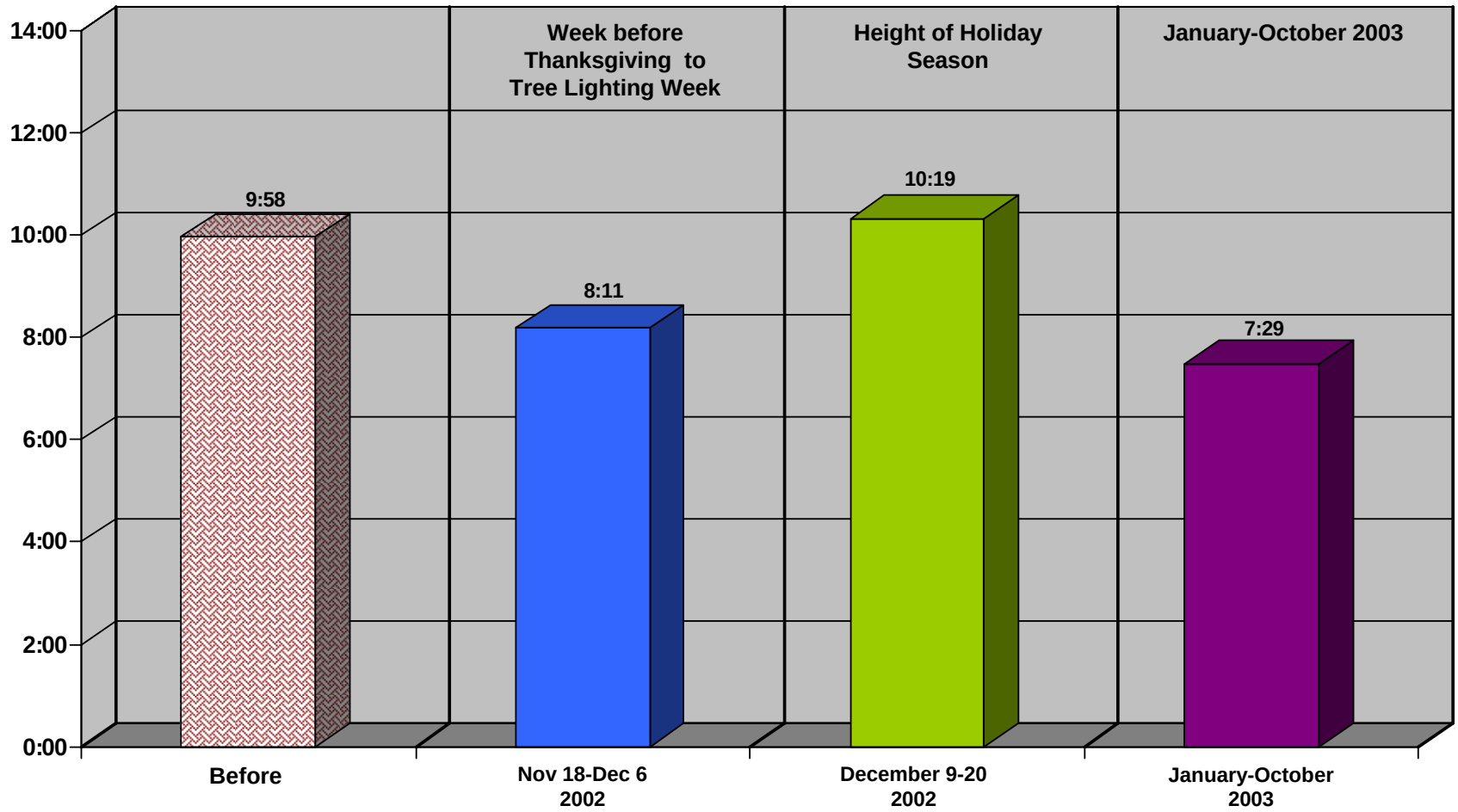
Average Travel Time (min:sec)
45th Street (westbound)
(10 AM – 6 PM)



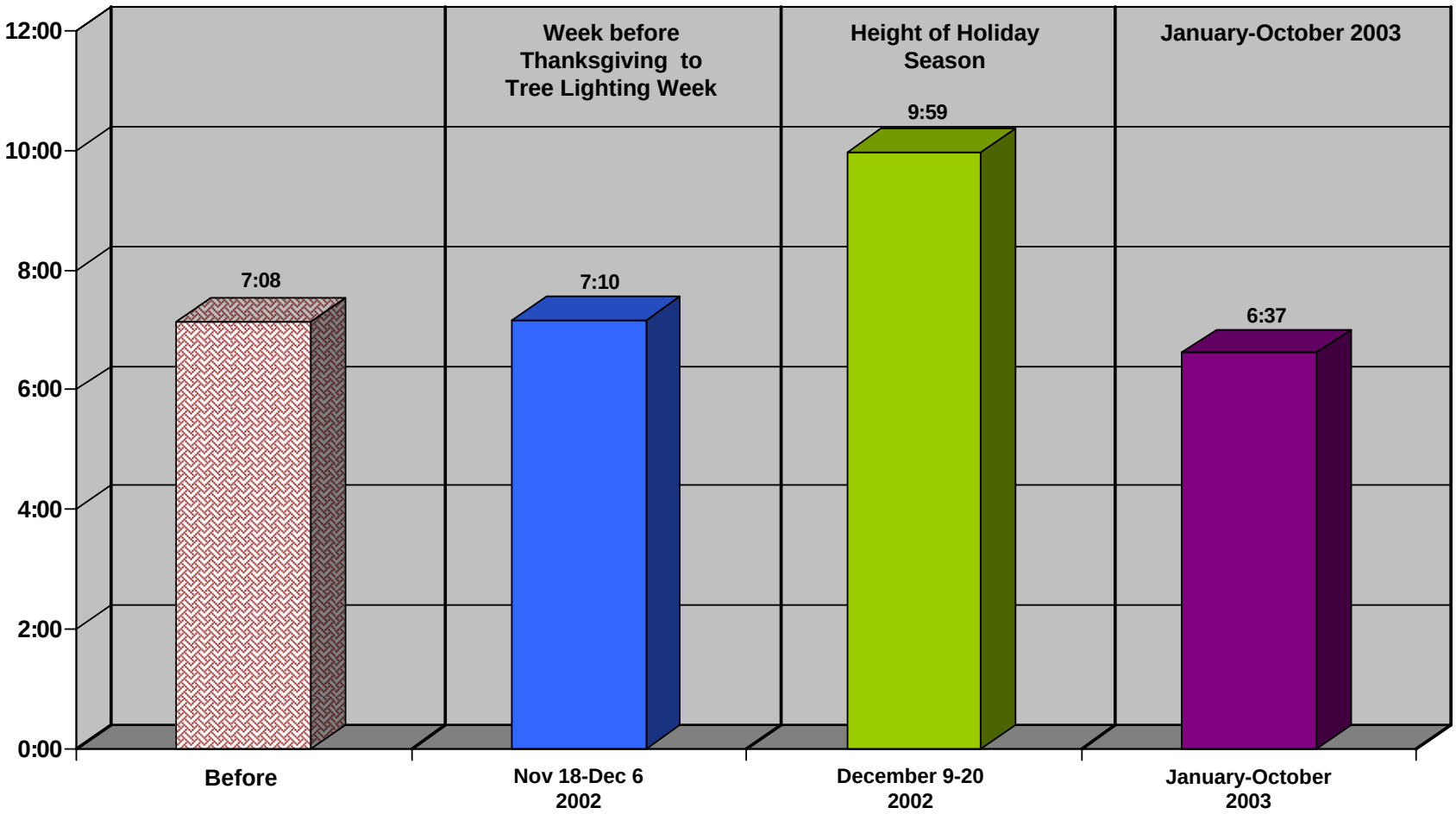
Average Travel Time (min:sec)
46th Street (eastbound)
(10 AM – 6 PM)



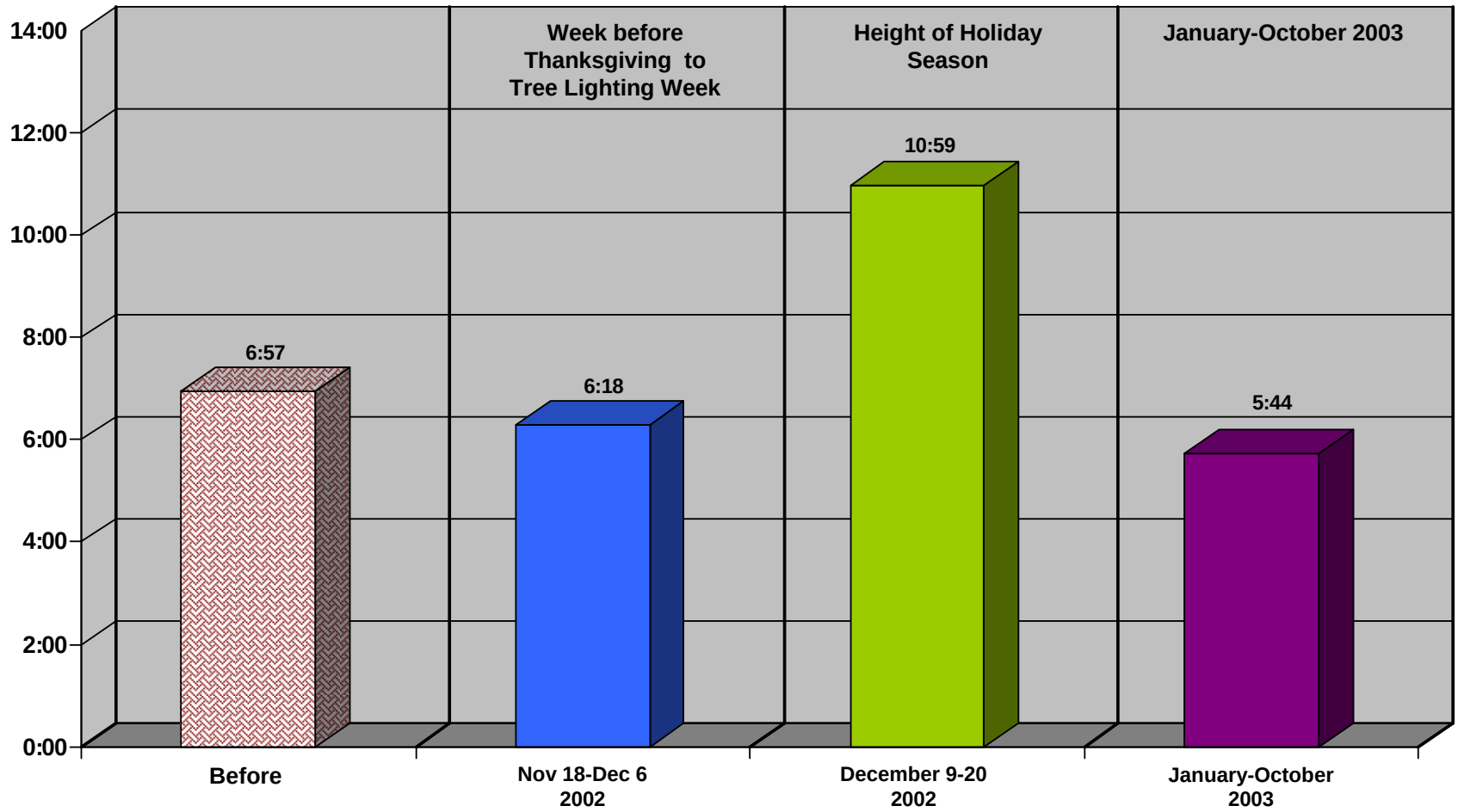
Average Travel Time (min:sec)
49th Street (westbound)
(10 AM – 6 PM)



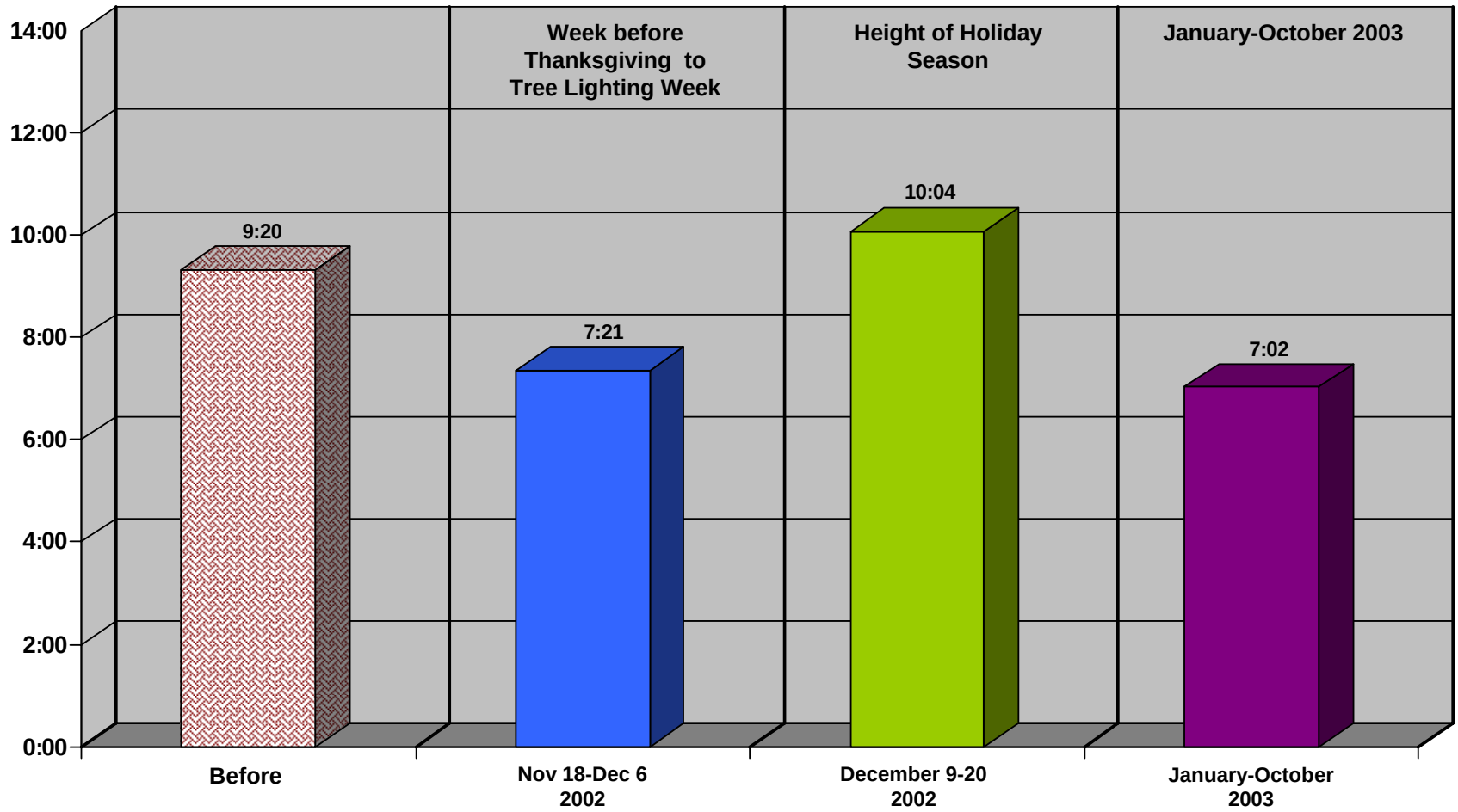
Average Travel Time (min:sec)
50th Street (eastbound)
(10 AM – 6 PM)



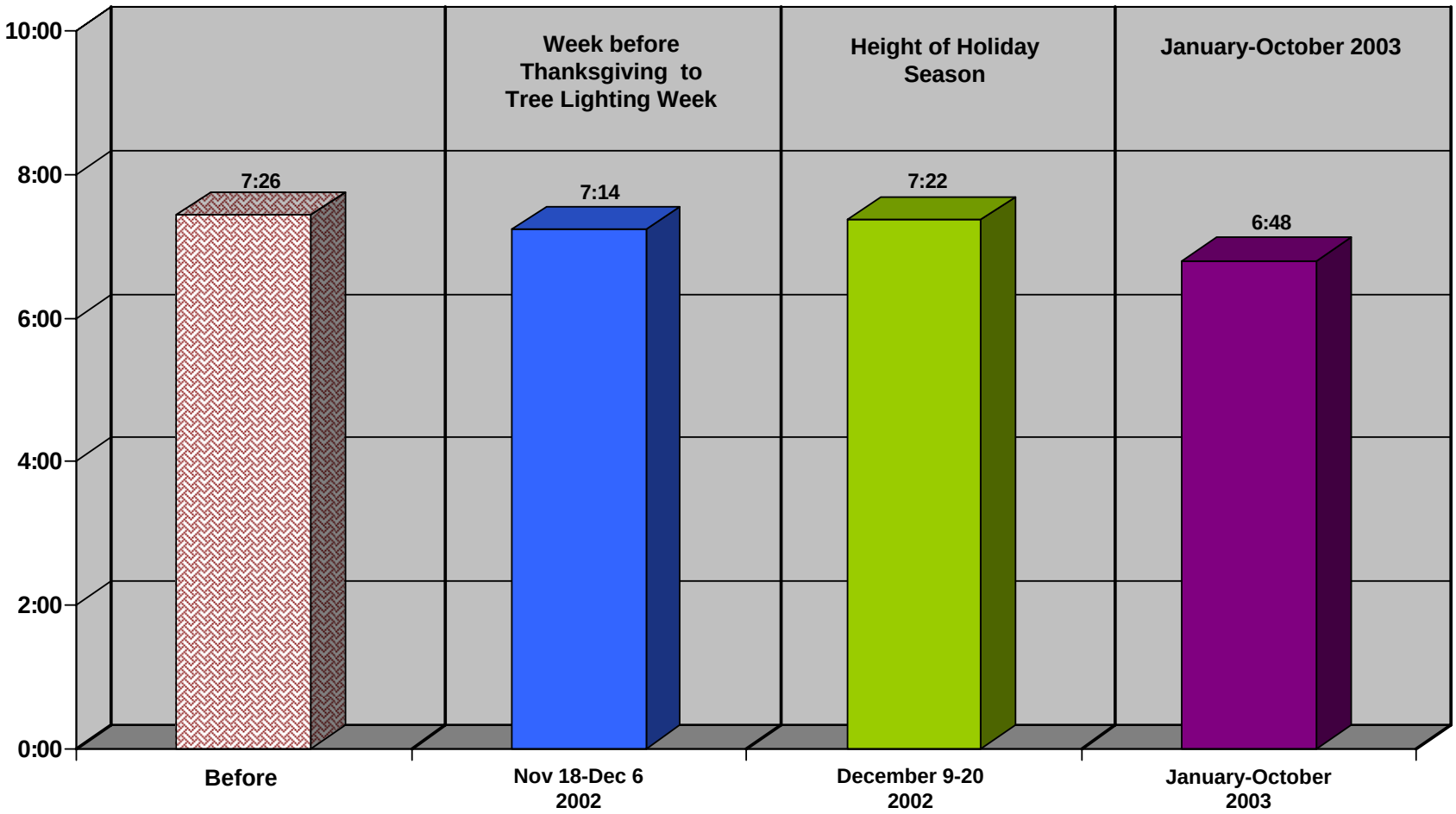
Average Travel Time (min:sec)
53rd Street (westbound)
(10 AM – 6 PM)



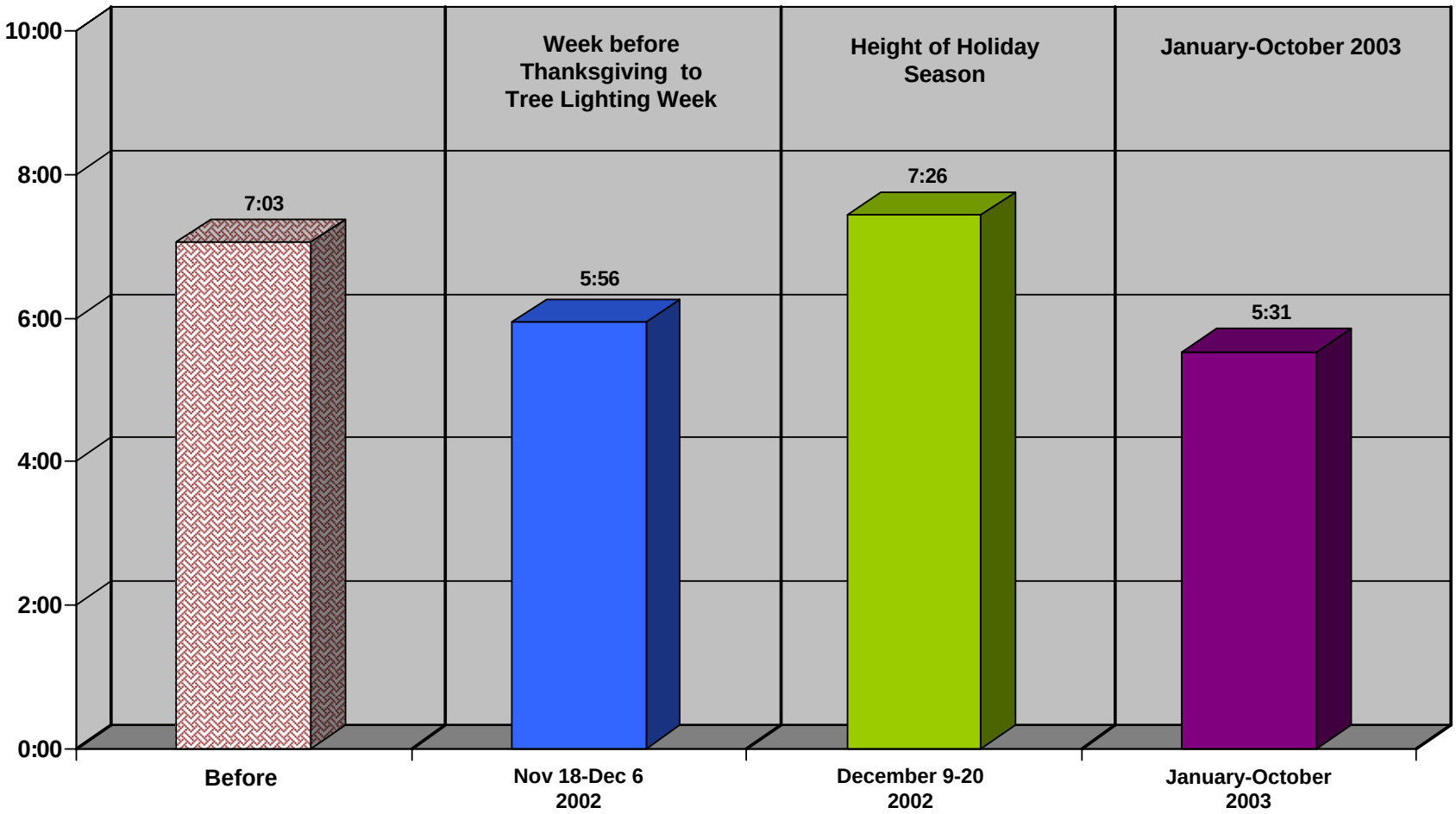
Average Travel Time (min:sec)
54th Street (eastbound)
(10 AM – 6 PM)



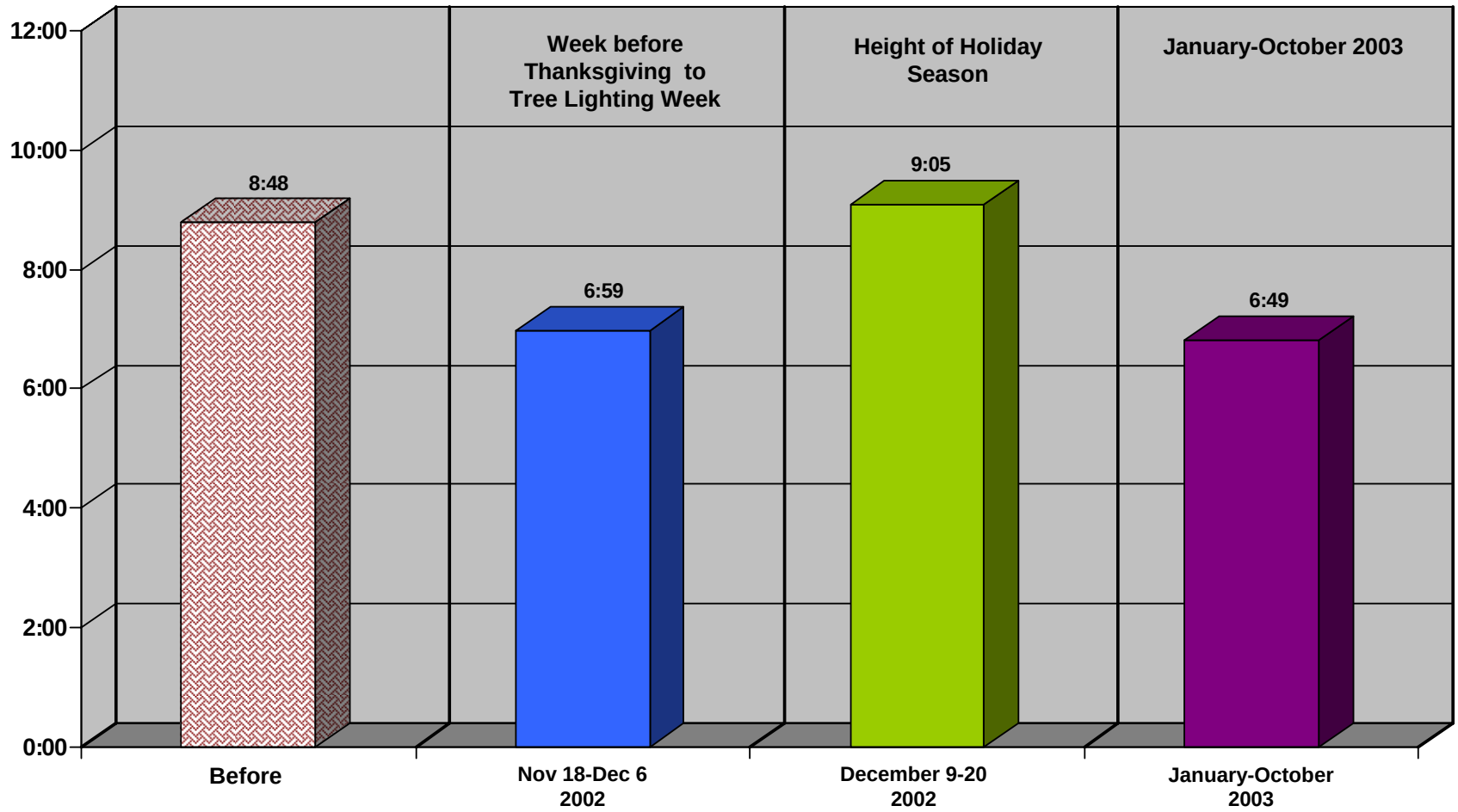
Average Travel Time (min:sec)
59th Street (eastbound)
(10 AM – 6 PM)



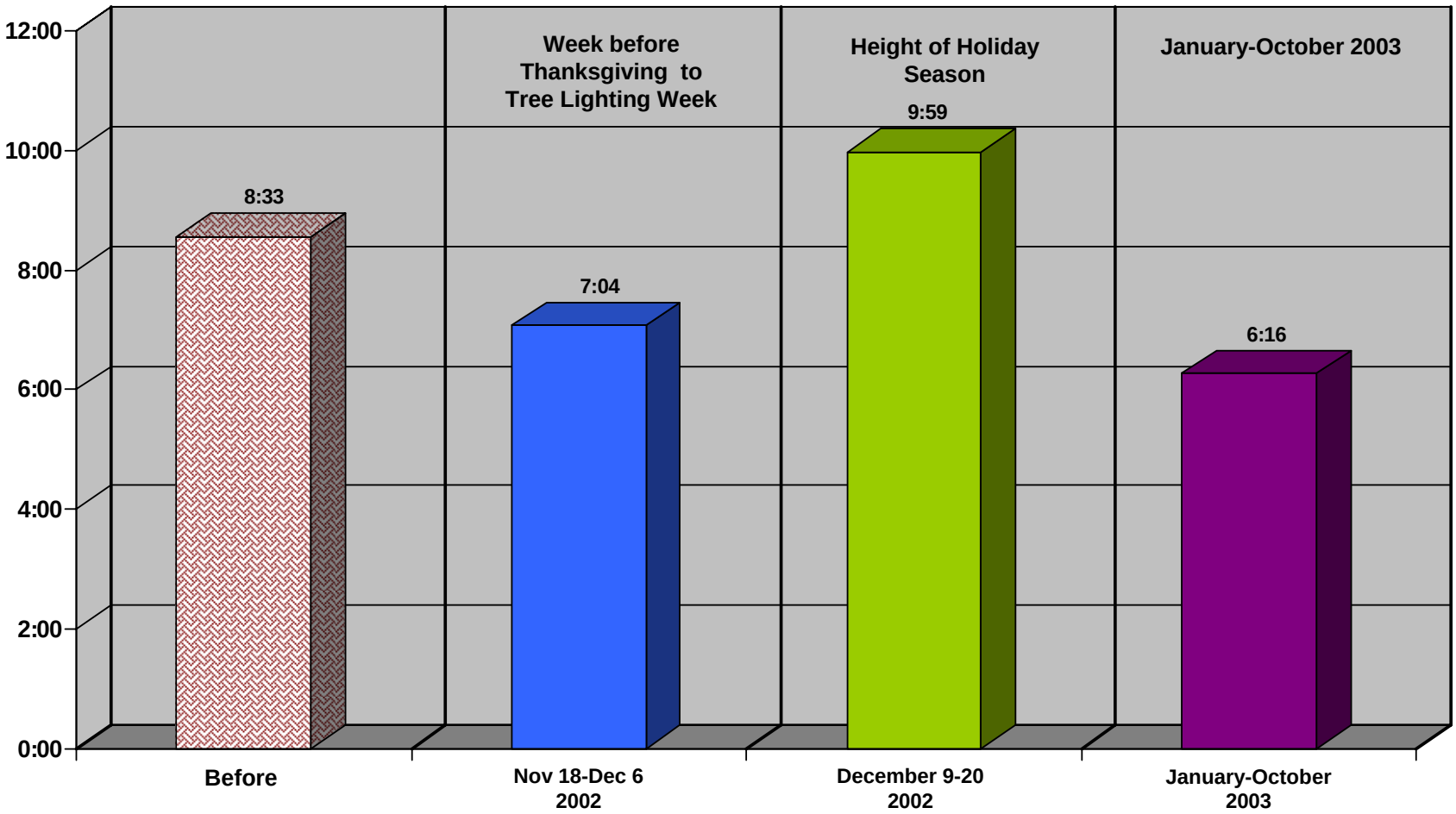
Average Travel Time (min:sec)
60th Street (westbound)
(10 AM – 6 PM)



Average Travel Time (min:sec)
4 Eastbound *THRU* Streets
(10 AM – 6 PM) 36th, 46th, 50th, & 54th Streets



Average Travel Time (min:sec)
5 Westbound *THRU* Streets
(10 AM – 6 PM) 37th, 45th, 49th, 53rd, & 60th Streets

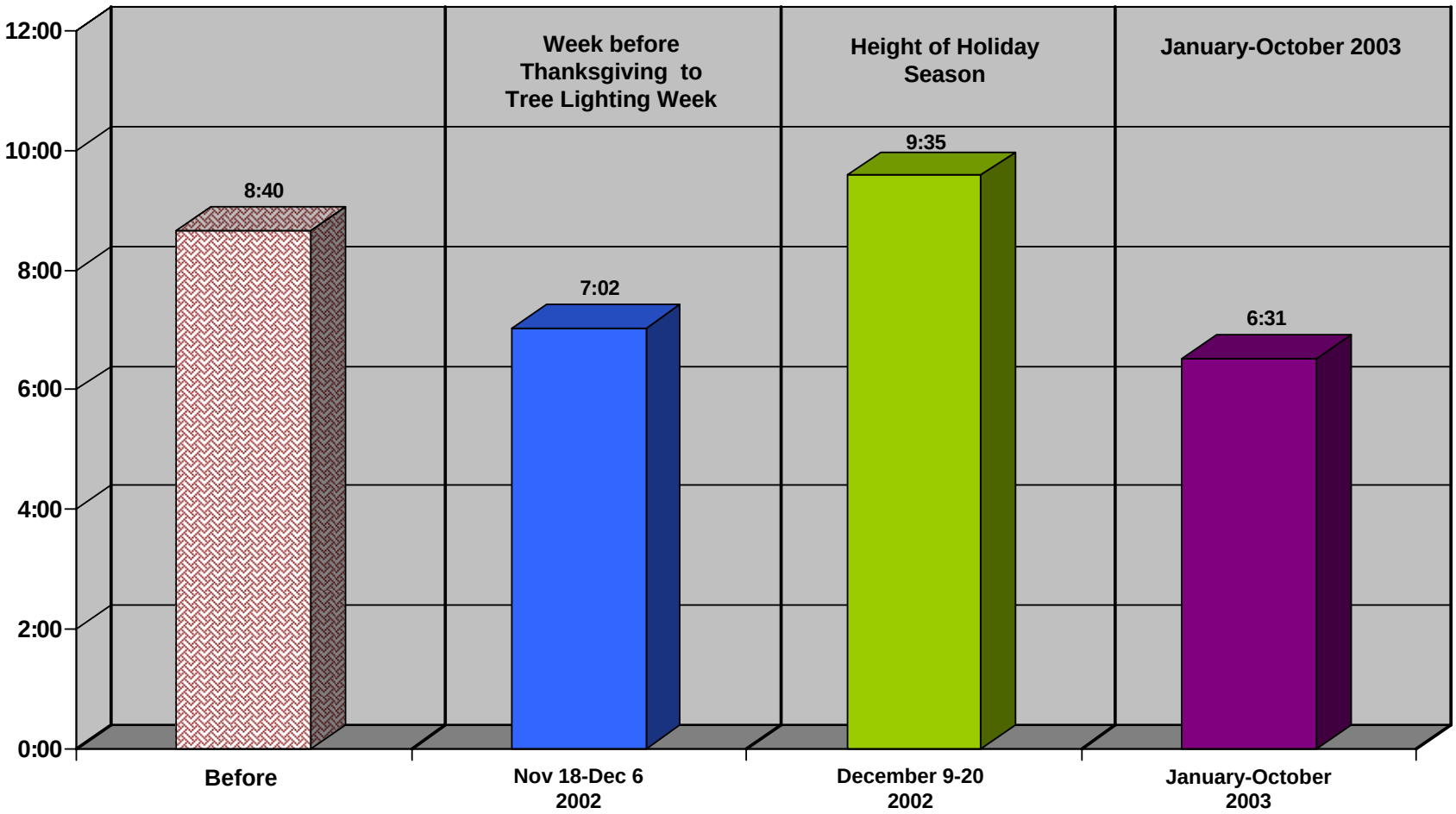


Average Travel Time (min:sec)

9 *THRU* Streets
(10 AM – 6 PM)

4 Eastbound: 36th, 46th, 50th, 54th

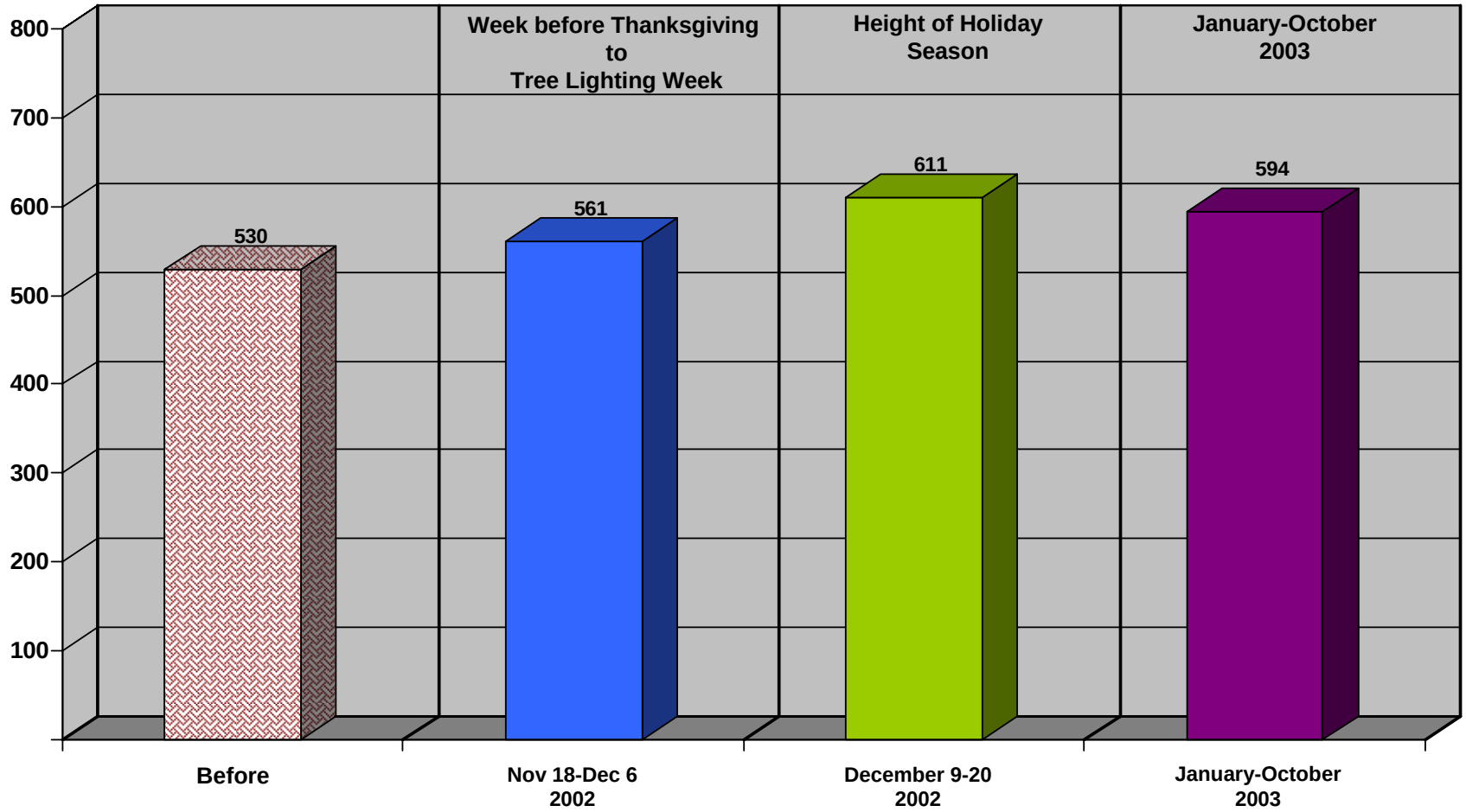
5 Westbound: 37th, 45th, 49th, 53rd, 60th



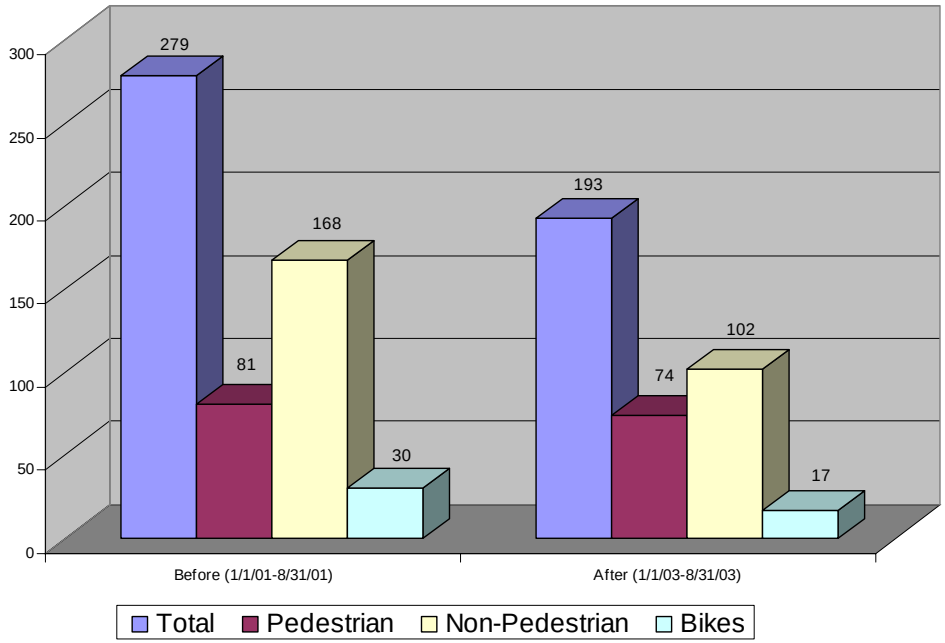
Appendix III

Manhattan ***THRU*** Streets Vehicle Volumes

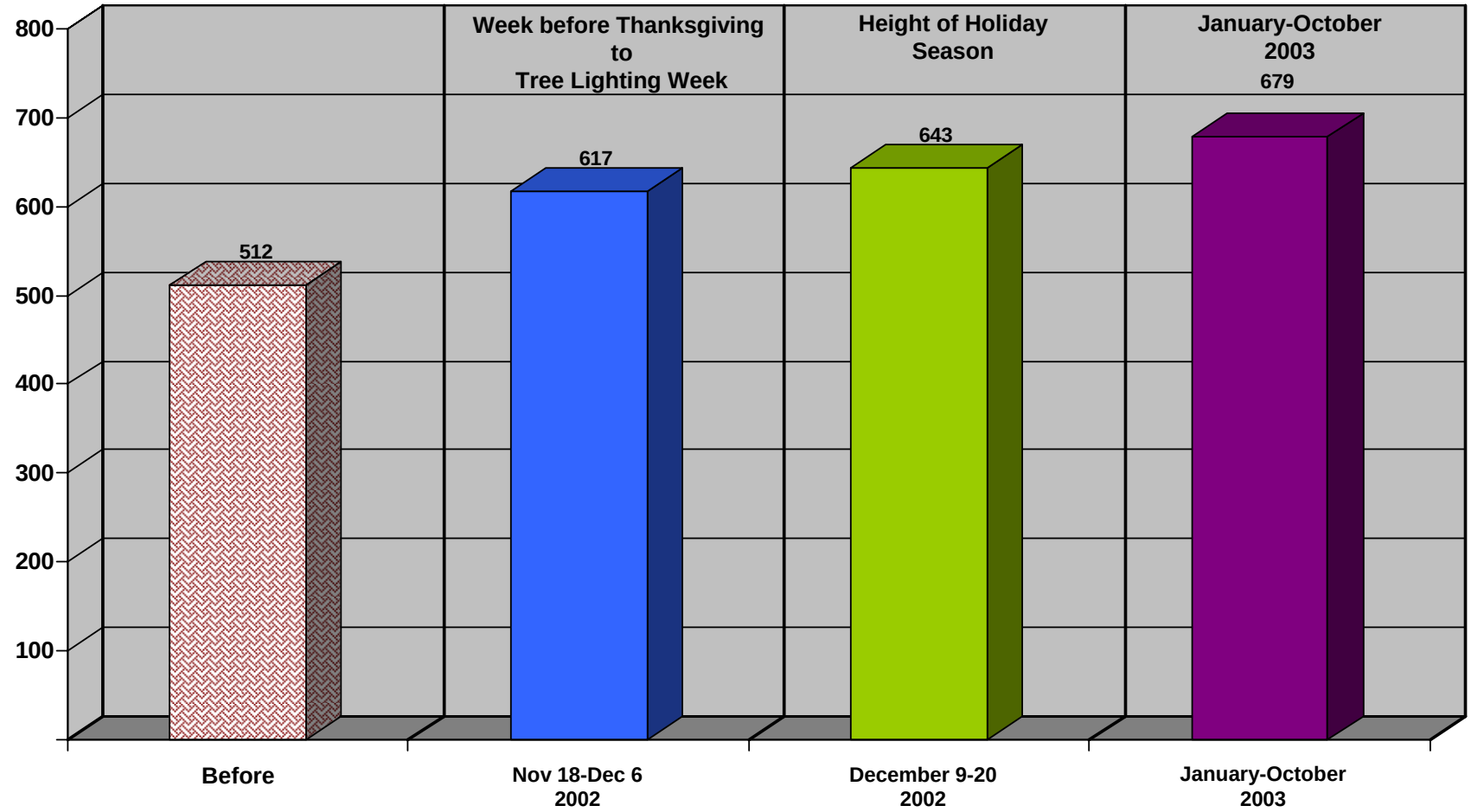
Average Hourly Vehicle Volumes (vph)
36th Street (eastbound)
(10 AM – 6 PM)



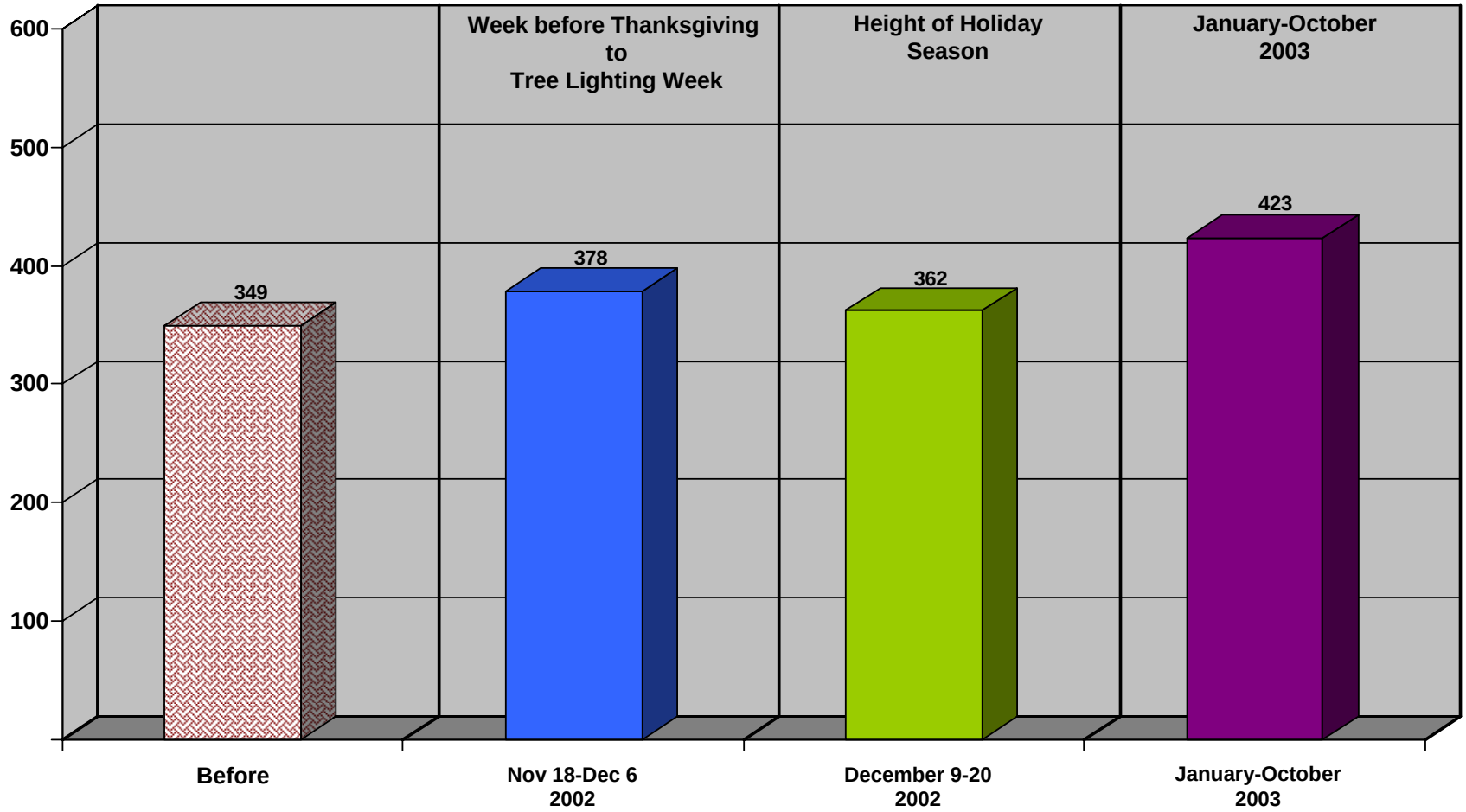
THRU Streets
Total Accidents by Mode



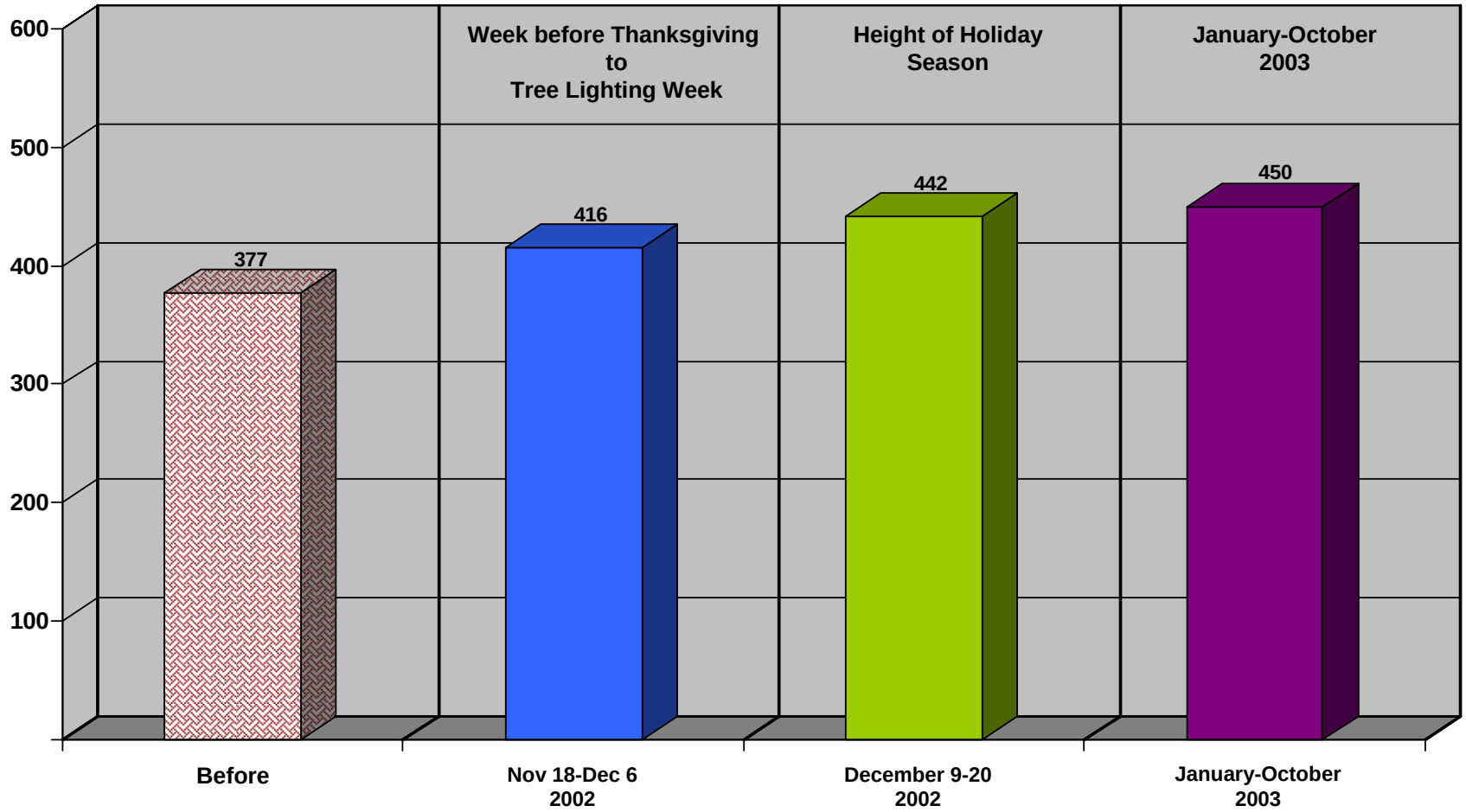
Average Hourly Vehicle Volumes (vph)
37th Street (westbound)
(10 AM – 6 PM)



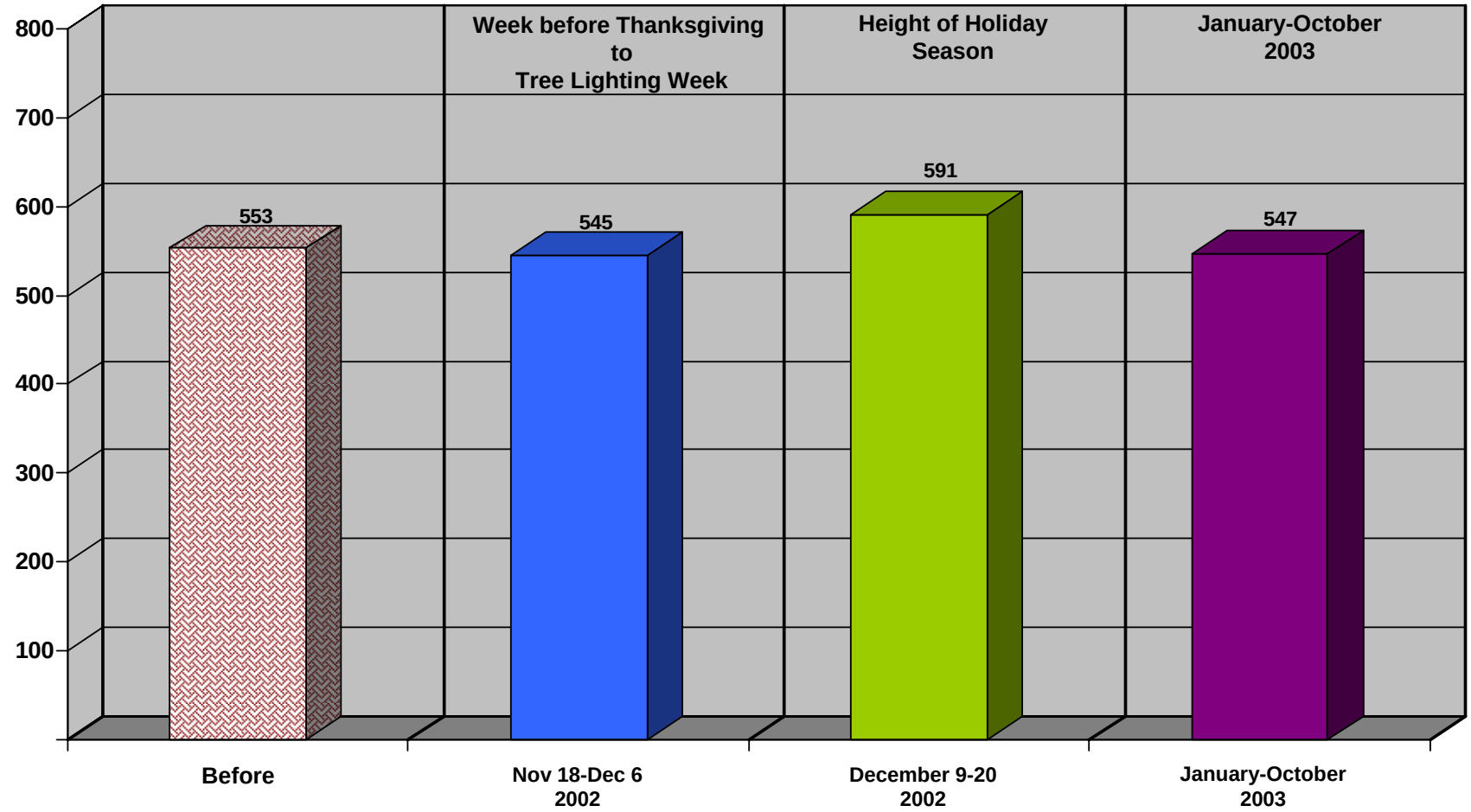
Average Hourly Vehicle Volumes (vph)
45th Street (westbound)
(10 AM – 6 PM)



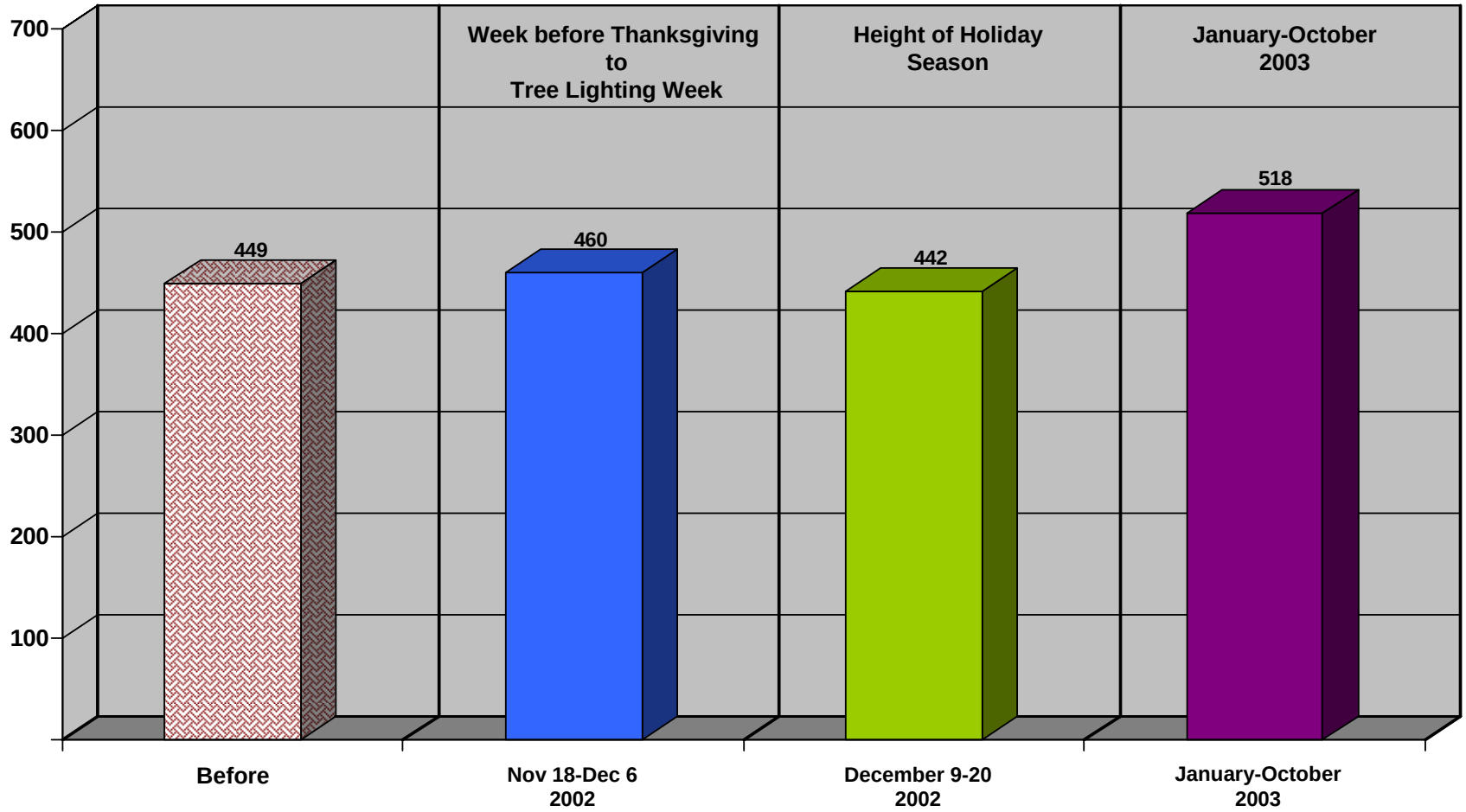
Average Hourly Vehicle Volumes (vph)
46th Street (eastbound)
(10 AM – 6 PM)



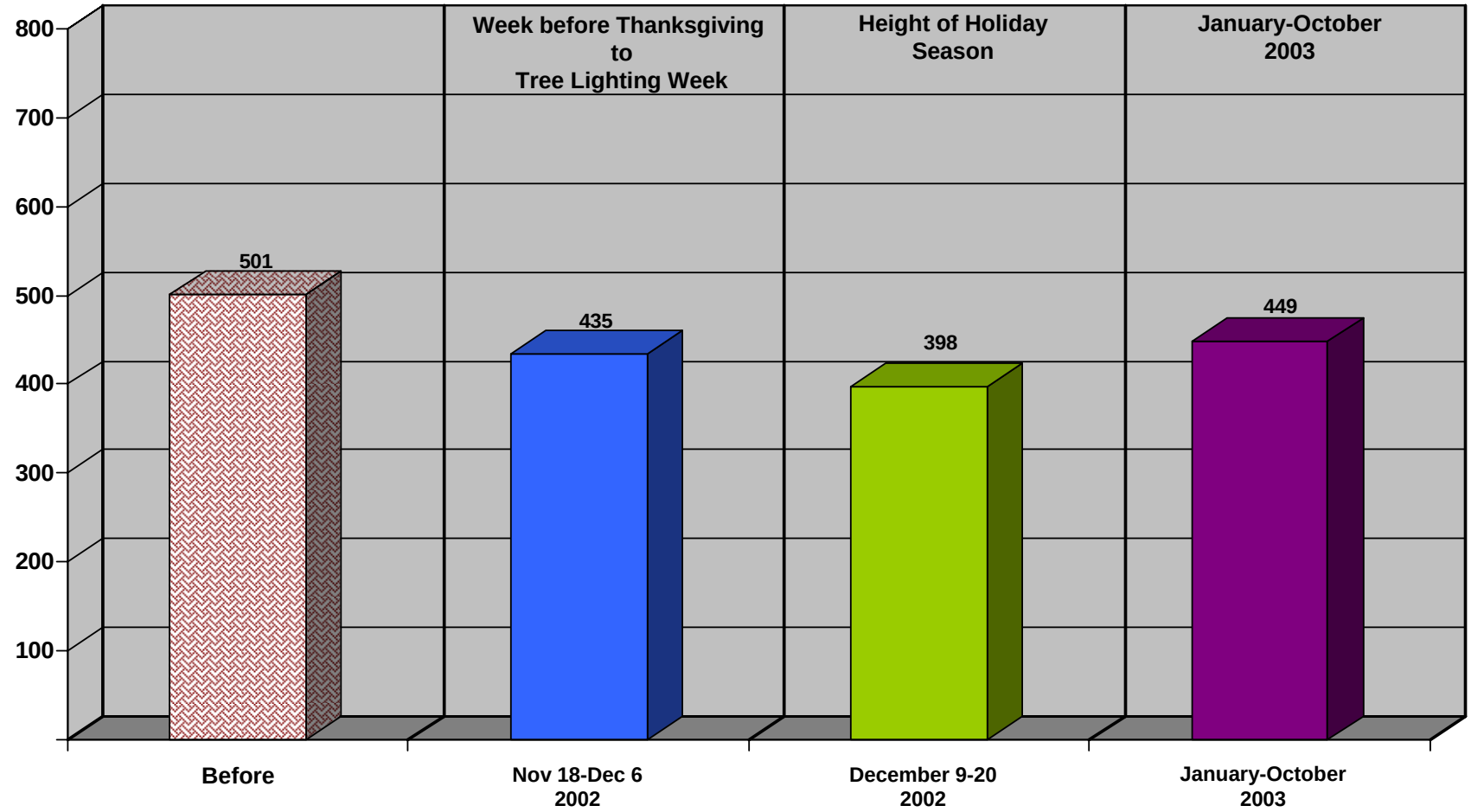
Average Hourly Vehicle Volumes (vph)
49th Street (westbound)
(10 AM – 6 PM)



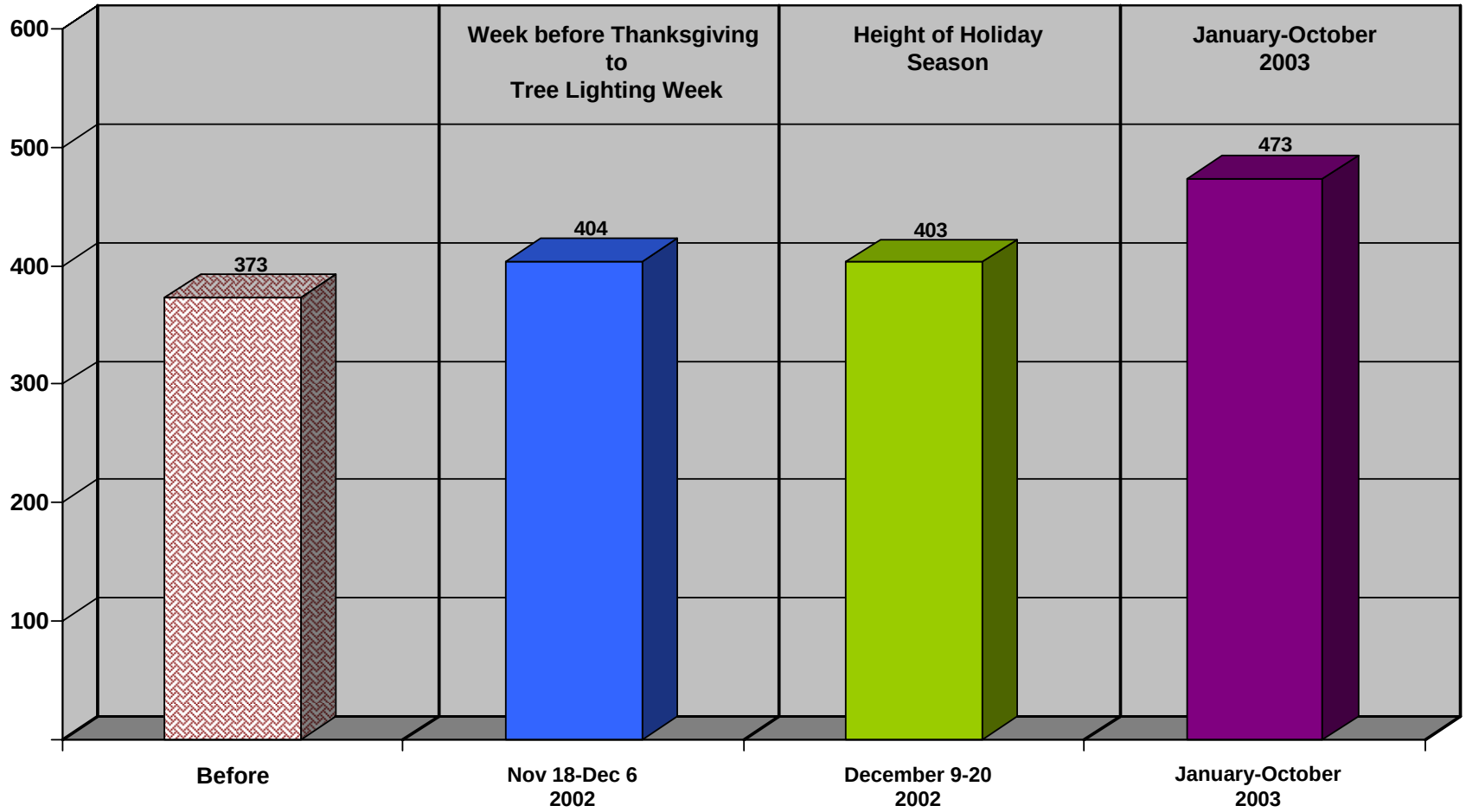
Average Hourly Vehicle Volumes (vph)
50th Street (eastbound)
(10 AM – 6 PM)



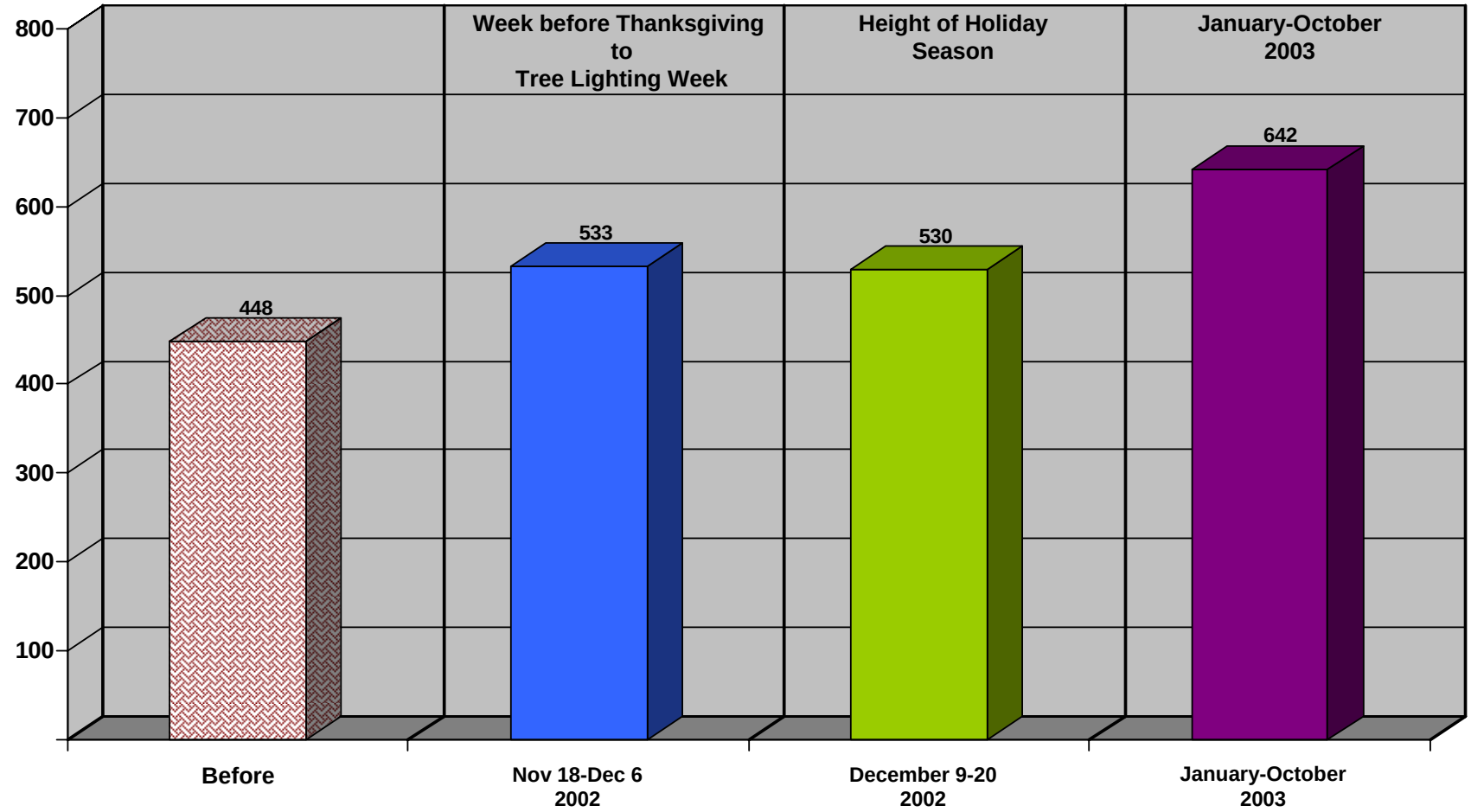
Average Hourly Vehicle Volumes (vph)
53rd Street (westbound)
(10 AM – 6 PM)



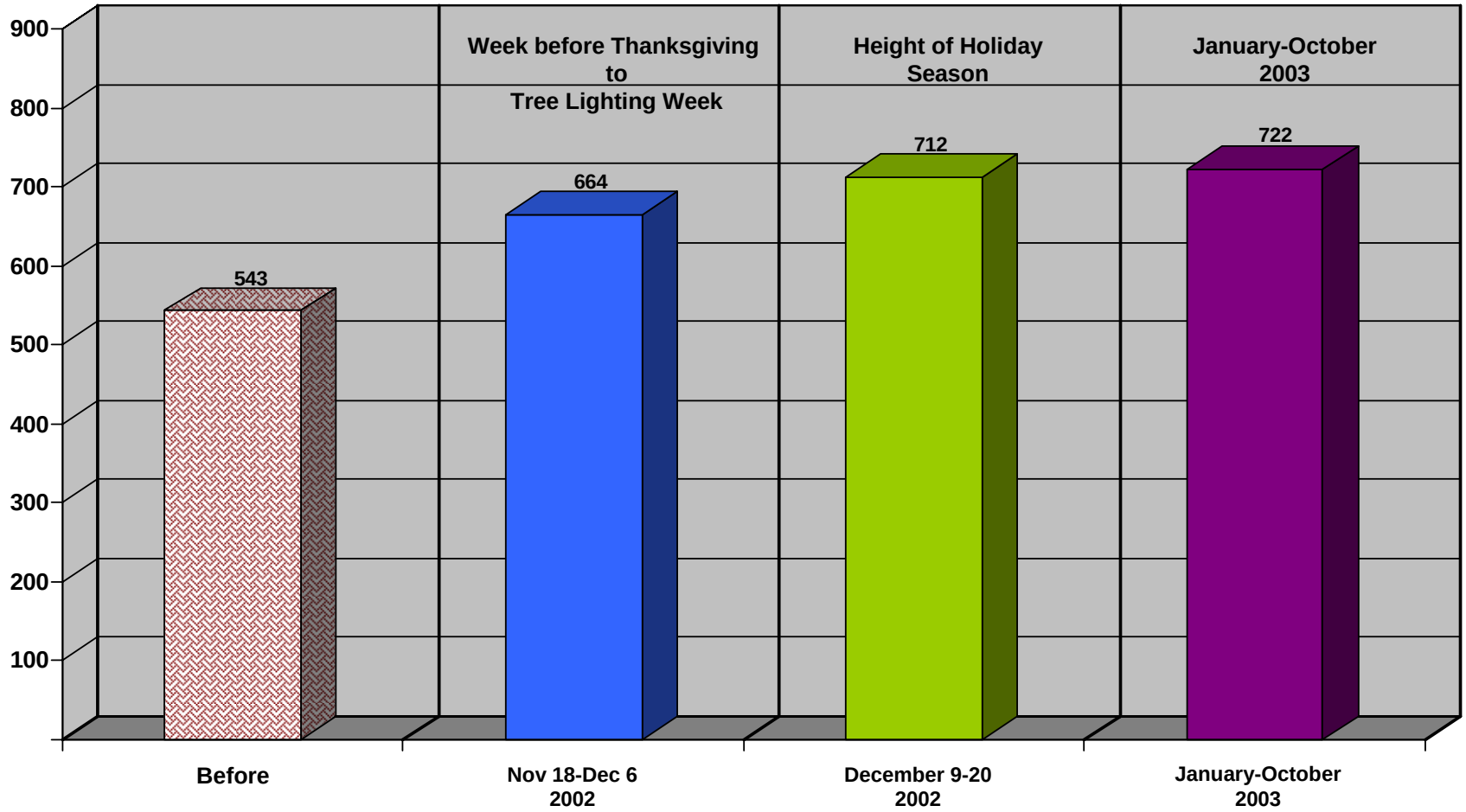
Average Hourly Vehicle Volumes (vph)
54th Street (eastbound)
(10 AM – 6 PM)



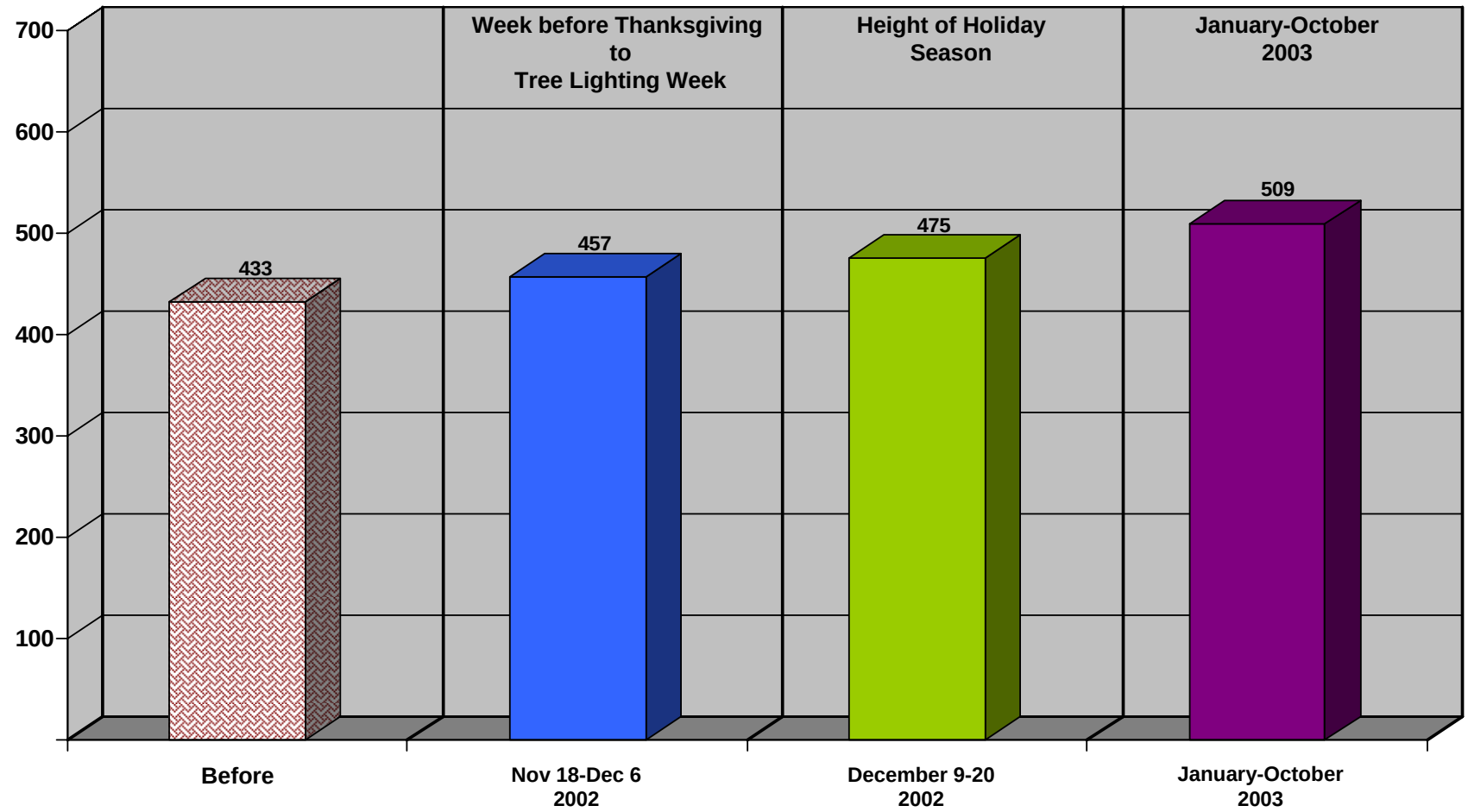
Average Hourly Vehicle Volumes (vph)
59th Street (eastbound)
(10 AM – 6 PM)



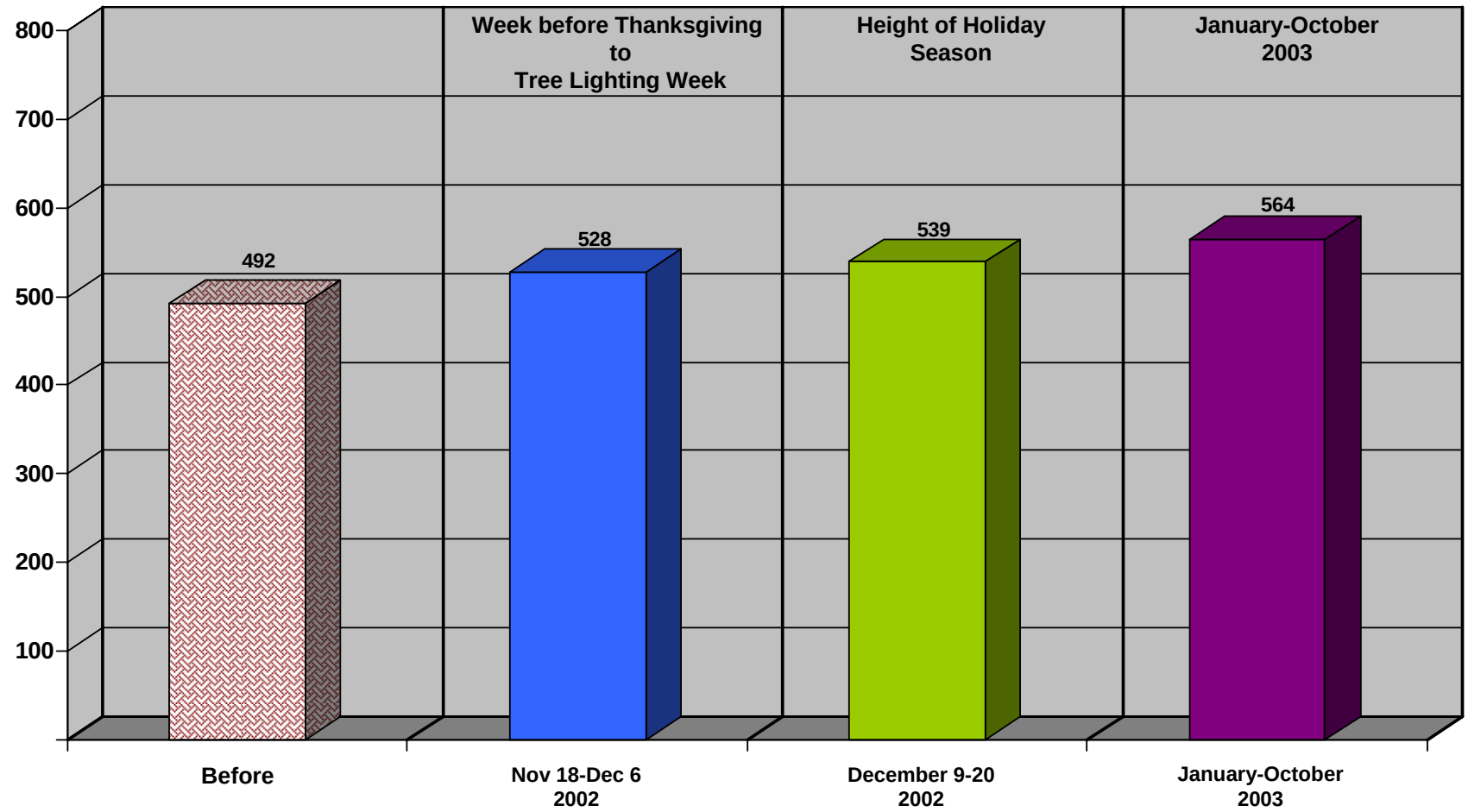
Average Hourly Vehicle Volumes (vph)
60th Street (westbound)
(10 AM – 6 PM)



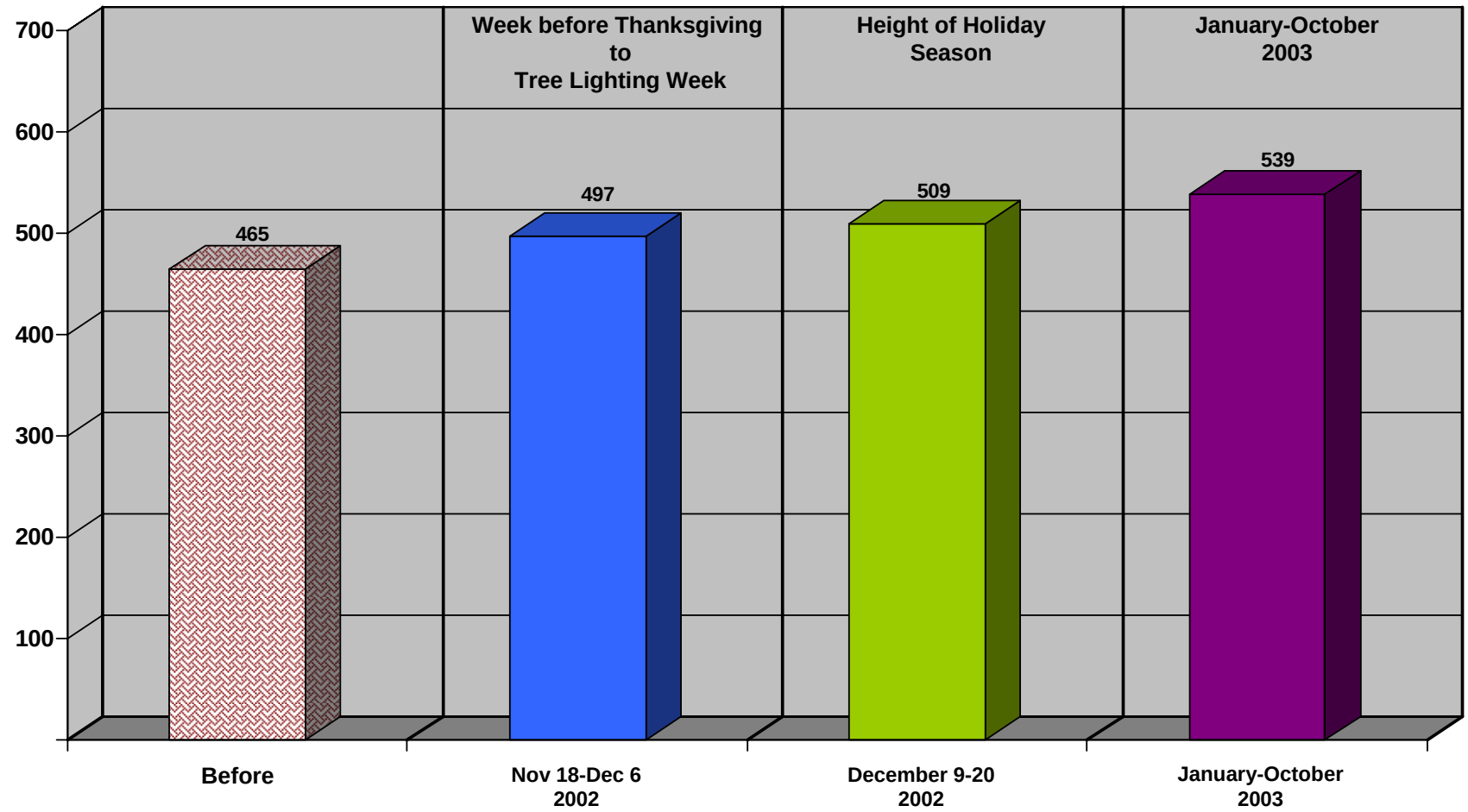
Hourly Vehicle Volumes (vph)
Average of 4 Eastbound *THRU* Streets
(10 AM – 6 PM) 36th, 46th, 50th, & 54th Streets



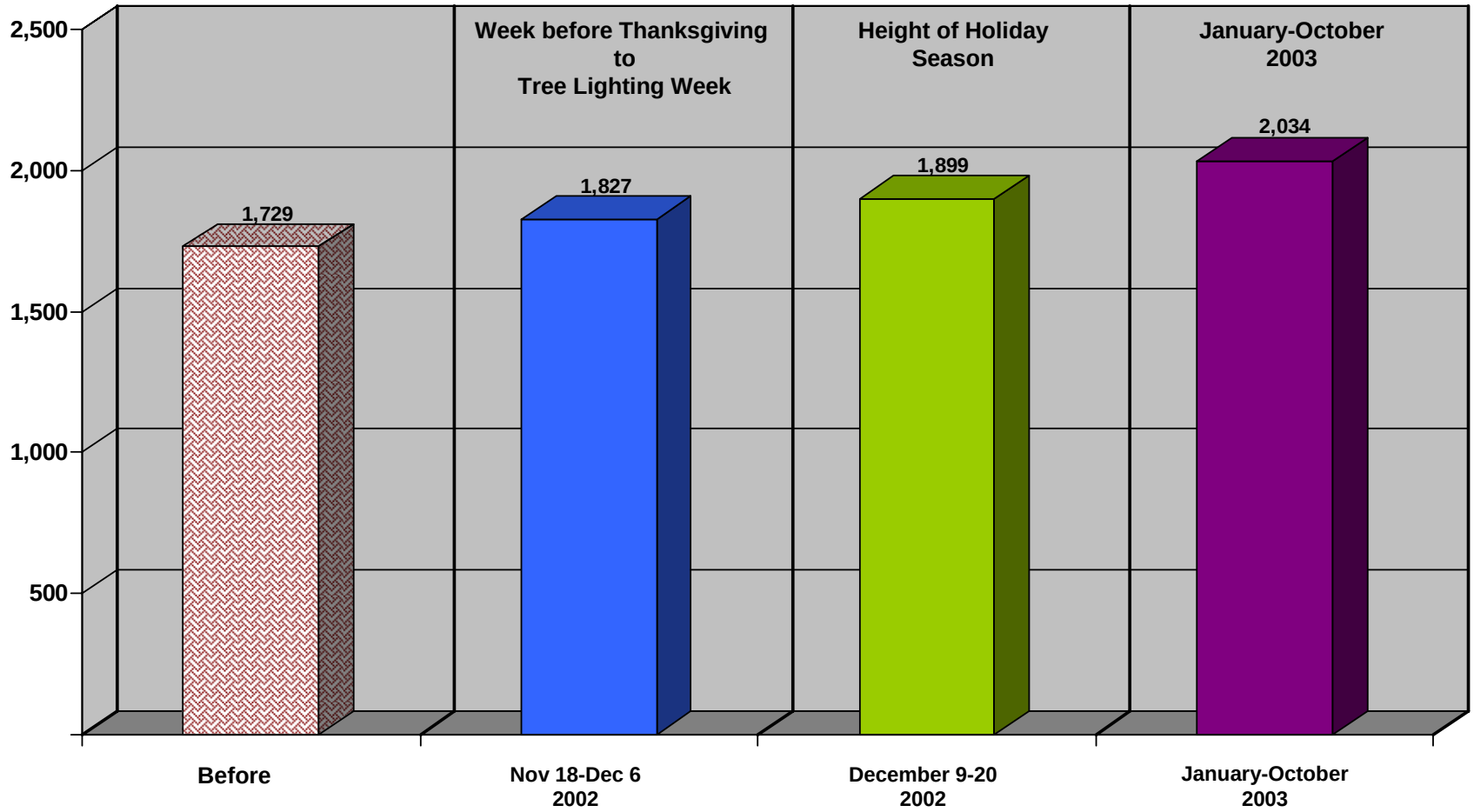
Hourly Vehicle Volumes (vph)
Average of 5 Westbound *THRU* Streets
(10 AM – 6 PM) 37th, 45th, 49th, 53rd, & 60th Streets



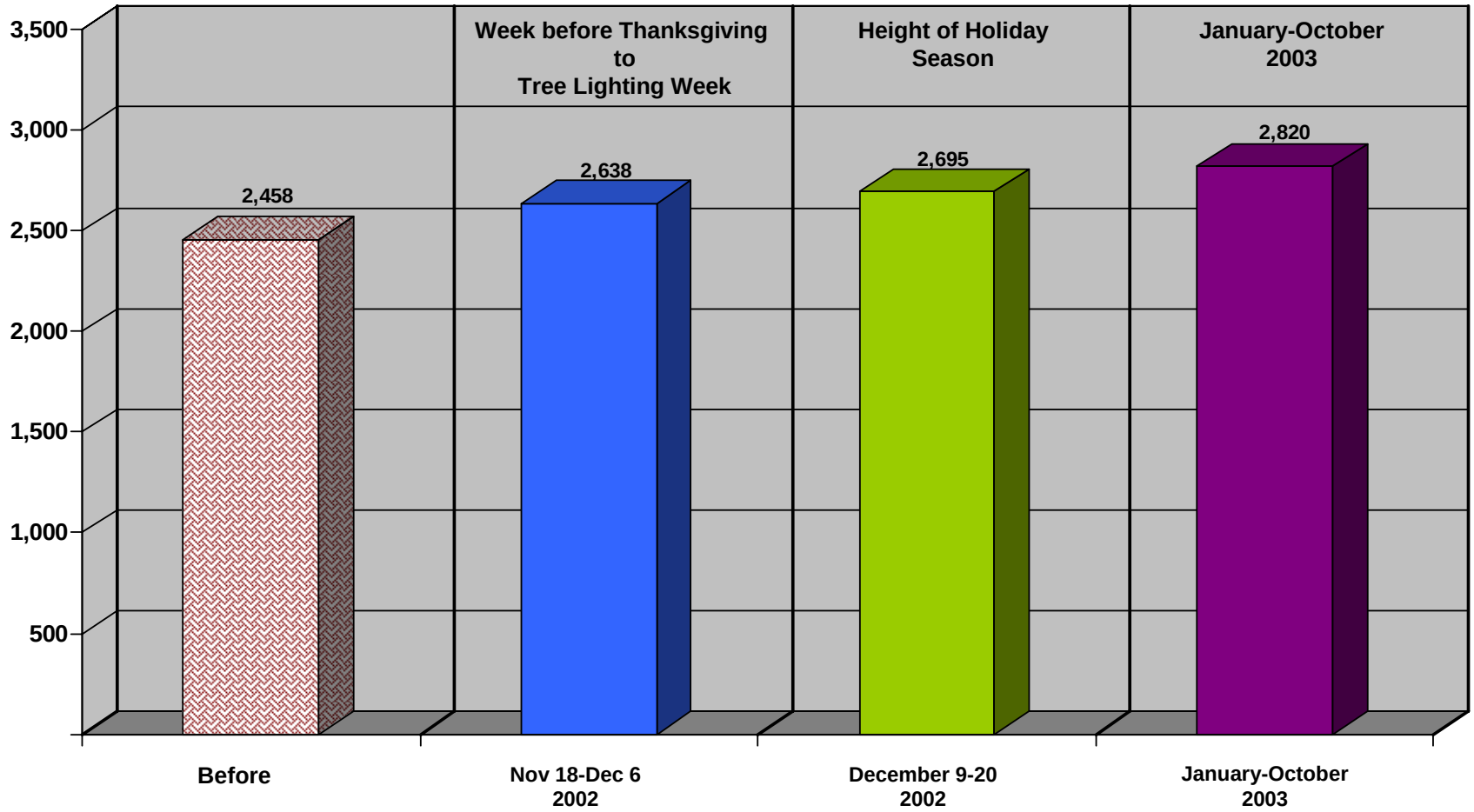
Hourly Vehicle Volumes (vph)
Average of 9 *THRU* Streets (10 AM – 6 PM)
36th, 37th, 45th, 46th, 49th, 50th, 53rd, 54th, & 60th Streets



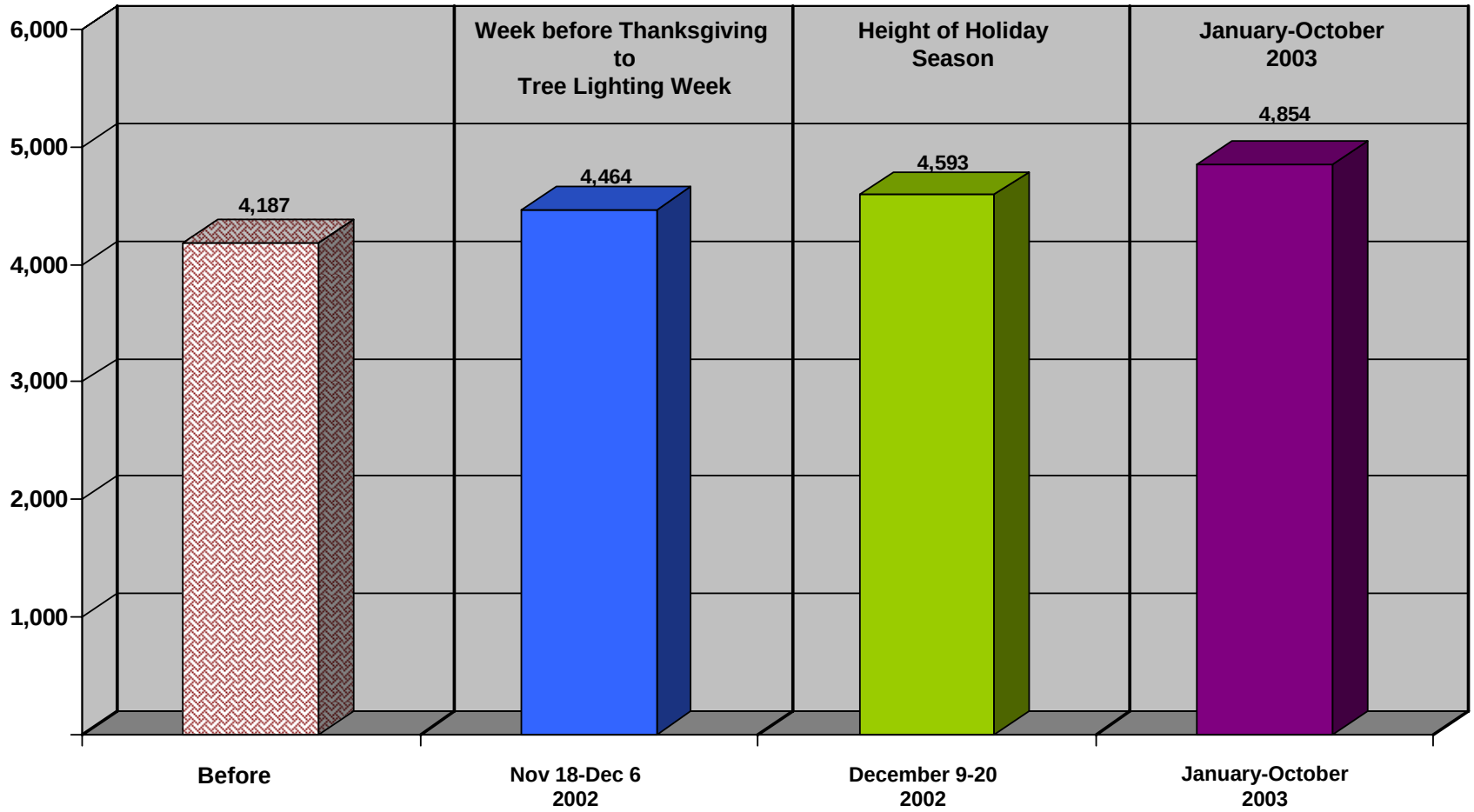
Hourly Vehicle Volumes (vph)
Total of 4 Eastbound *THRU* Streets
(10 AM – 6 PM) 36th, 46th, 50th, & 54th Streets



Hourly Vehicle Volumes (vph)
Total of 5 Westbound *THRU* Streets
(10 AM – 6 PM) 37th, 45th, 49th, 53rd, & 60th Streets



Hourly Vehicle Volumes (vph)
Total of 9 *THRU* Streets (10 AM – 6 PM)
36th, 37th, 45th, 46th, 49th, 50th, 53rd, 54th, & 60th Streets



Appendix IV

Manhattan non-***THRU*** Streets
Travel Times
and
Vehicle Volumes

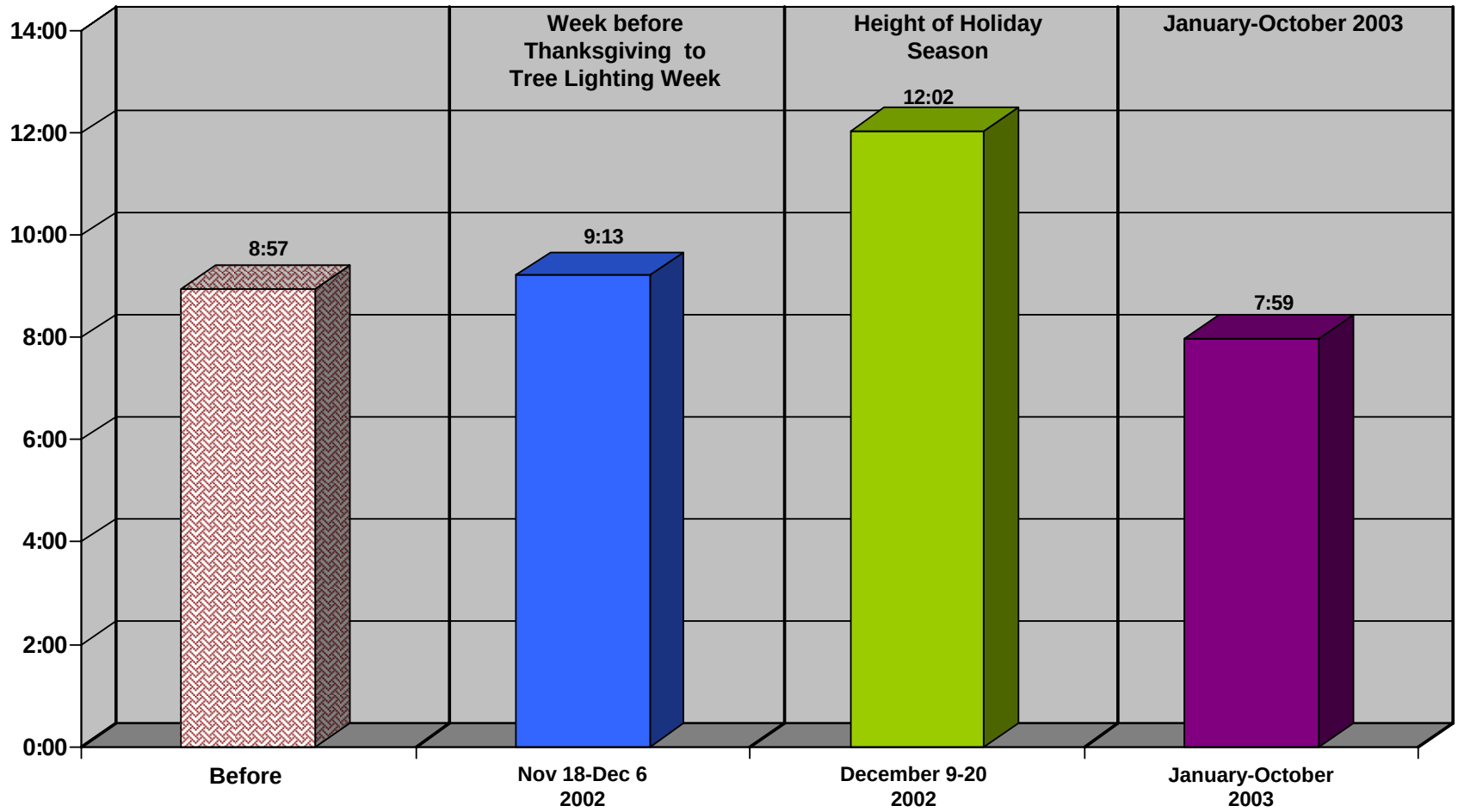
Average Travel Time (min:sec)

6 Non-THRU Streets

(10 AM – 6 PM)

3 Eastbound: 40th, 48th, 56th

3 Westbound: 39th, 47th, 55th



Hourly Vehicle Volumes (vph)
Total of 6 Non-THRU Streets
(10 AM – 6 PM) 39th, 40th, 47th, 48th, 55th, & 56th Streets