

**City of Piedmont
California**



Date: March 1, 2019
To: Paul Benoit, City Administrator
From: Chester G. Nakahara
Public Works Director
Subject: Linda Kingston Parking District

At the October 16, 2017 meeting, Council approved the formation of the Linda Kingston Parking District. As part of the approval under Resolution 86-17, Item #8 stated the following:

“The Director of Public Works is directed to report back to the City Council, approximately six months after the effective date of enforcement, on the effectiveness of the District as well as the potential impacts to adjacent non-regulated streets.”

Pursuant to this request, Staff directed Kittelson & Associates to conduct a before-and-after study to assist with this analysis. Included in this report was data previously collected before implementation of the parking district on the following streets within the parking district:

- Rose Ave. between Grand Ave. and Linda Ave.
- Kingston Ave. between Greenbank Ave. and Monte Cresta Ave.
- Linda Ave. between Rose Ave. and Lake Ave.
- Lake Ave. between Greenbank Ave. and Linda Ave.

New data was then collected after implementation of the parking district and results were analyzed. Additionally, this new report includes data collected from the adjacent streets not currently in the district but might be affected by the implementation of the parking district. Again, both before and after implementation parking data was collected. These streets included:

- Grand Ave. between Rose Ave. and Oakland Ave.
- Greenbank Ave. between Rose Ave. & Grand Ave.
- Nace Ave. between Lake Ave. and Howard Ave.
- Howard Ave. between Lake Ave. and Oakland Ave.
- Lake Ave. between Linda Ave. and Olive Ave.
- Linda Ave. between Lake Ave. and Grand Ave.

Details of the data collection periods, occupied and available parking, and Department of Motor vehicle registration data can be found in the report attached to this memo.

In comparing before and after data, the report concludes that the number of available parking spots increased on the district streets across all periods of data collection, and there was a clear reduction in visitor parking during enforcement hours.

The analysis of parking on streets not in the district but adjacent to the regulated streets shows, as expected, an increase in parking activity after the parking district was implemented. Of the non-regulated streets, Greenbank Ave. and Nace Ave. appears to have experienced the most increase in parking activity mostly due to parking by neighborhood residents as opposed to non-Piedmont residents. Despite this increase, the adjacent streets, as a whole, had more than 40 percent of parking spaces still available.

From an enforcement perspective, Piedmont Police Department reports that over the 49 weeks of enforcement in 2018, 61 parking tickets have been issued within the boundaries of the parking district. This averages approximately 5 tickets per month.

Based on the analysis of the data collected, the parking district is working as intended without adversely impacting daytime parking for faculty, staff, and parents at Beach Elementary School. The report suggests that the City continue to monitor the district to assess long term parking patterns in the district and on adjacent, non-regulated streets.

BEFORE-AFTER STUDY **RESIDENTIAL PERMIT PARKING ON KINGSTON AVENUE AND VICINITY**

Piedmont, California
February 2019

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SUMMARY

This before-after study summarizes the impact of the implementation of permit parking on the availability of on-street parking on Kingston Avenue and vicinity. Figure 1 shows the extent of the permit parking district that was evaluated. Permit parking was implemented in early 2018 and is only enforced between 10 PM and 7 AM (i.e., overnight), every day.

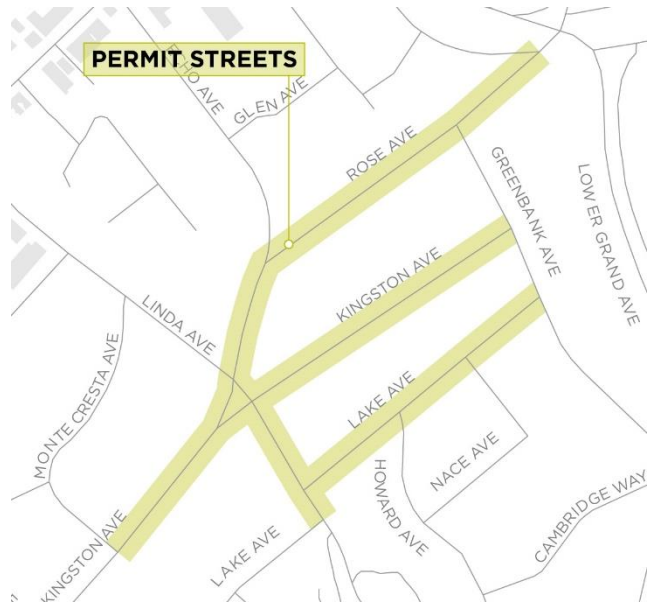
The findings of this before-after study show that the residential parking permit program increased the number of available spots on permit streets across all periods collected—including a Thursday noon observation when permit parking was not enforced.

The data show a clear reduction in visitor parking during enforcement hours. On the Thursday noon observation—outside of enforcement hours—only a slight reduction in visitor parking was noted. This was expected based on the design of the parking permit program, which aimed to minimize the impact to faculty and staff at Beach Elementary School.

An analysis of parking on streets *adjacent* to those in the permit parking area show an increase in parking activity after the permit program was implemented—as was expected. Despite this increase, the adjacent streets (as a whole) had more than 40 percent of parking spaces still available.

It is suggested that continuous monitoring be conducted to keep up with long-term parking patterns in the parking district and its adjacent streets.

Figure 1: Permit Streets



BACKGROUND

This section summarizes the efforts conducted as part of the planning and implementation of the residential permit parking program on Kingston Avenue and vicinity.

JUSTIFICATION FOR PERMIT PARKING

In 2015-2016, a data-driven assessment of parking conditions in the study area was performed in response to a resident petition signed by 25 residents of the 900 block of Kingston Avenue.

To determine whether the Kingston Avenue and vicinity residential parking permit program was justified, the City of Piedmont used thresholds based on those used by Arlington County (Virginia). The thresholds are as follows:

- At least 75 percent of the available parking on the block should be occupied, and
- At least 25 percent of the available parking on the block should be occupied by out-of-area vehicles such as commuters, shoppers, students, etc.

In short, these thresholds aim to prove that (1) parking is hard to find *and* (2) that the parking shortage can be resolved by permits.

The findings of the assessment suggested that on-street parking in the study area was constrained during middays on weekdays, and that non-residents are a large contributor to the scarcity of parking spots. The study found that the implementation of a permit parking program would improve access to on-street parking spaces by study area residents, and that it was justified by the data collected for the study. The study recommended that the City of Piedmont work with residents of the study area to find the right mix of rules for a residential permit parking program.

IMPLEMENTATION

Additional data collection in 2017—which included working with the California DMV for license plate matching—helped shed light on two additional questions. The first question was regarding a potential inclusion of Greenbank Avenue in the permit district, and the second question was on overnight visitor parking in the entire neighborhood.

- **On Greenbank Avenue:** The inclusion of Greenbank Avenue into the study area was not justified as parking was easy to find, and most parked vehicles belonged to residents of the study area.
- **On overnight visitor parking:** Overnight visitor parking activity was a borderline scenario with busy nights like Friday falling just over the threshold of justification and normal nights like Wednesday falling under the threshold. Nevertheless, it was clear that a substantial share of overnight parking (about one quarter) was due to non-residents.

City of Piedmont staff worked with the community to identify a set of initial rules for the permit parking program. After some deliberation, the parking program was launched in early 2018, with the following defining characteristics:

- Two parking permits per eligible household.
- Residents of single-family homes and apartments in buildings of eight (8) or fewer units were eligible for permits.
- Permit parking would only be enforced between 10 PM and 7 AM (i.e., overnight), every day.

DATA COLLECTION

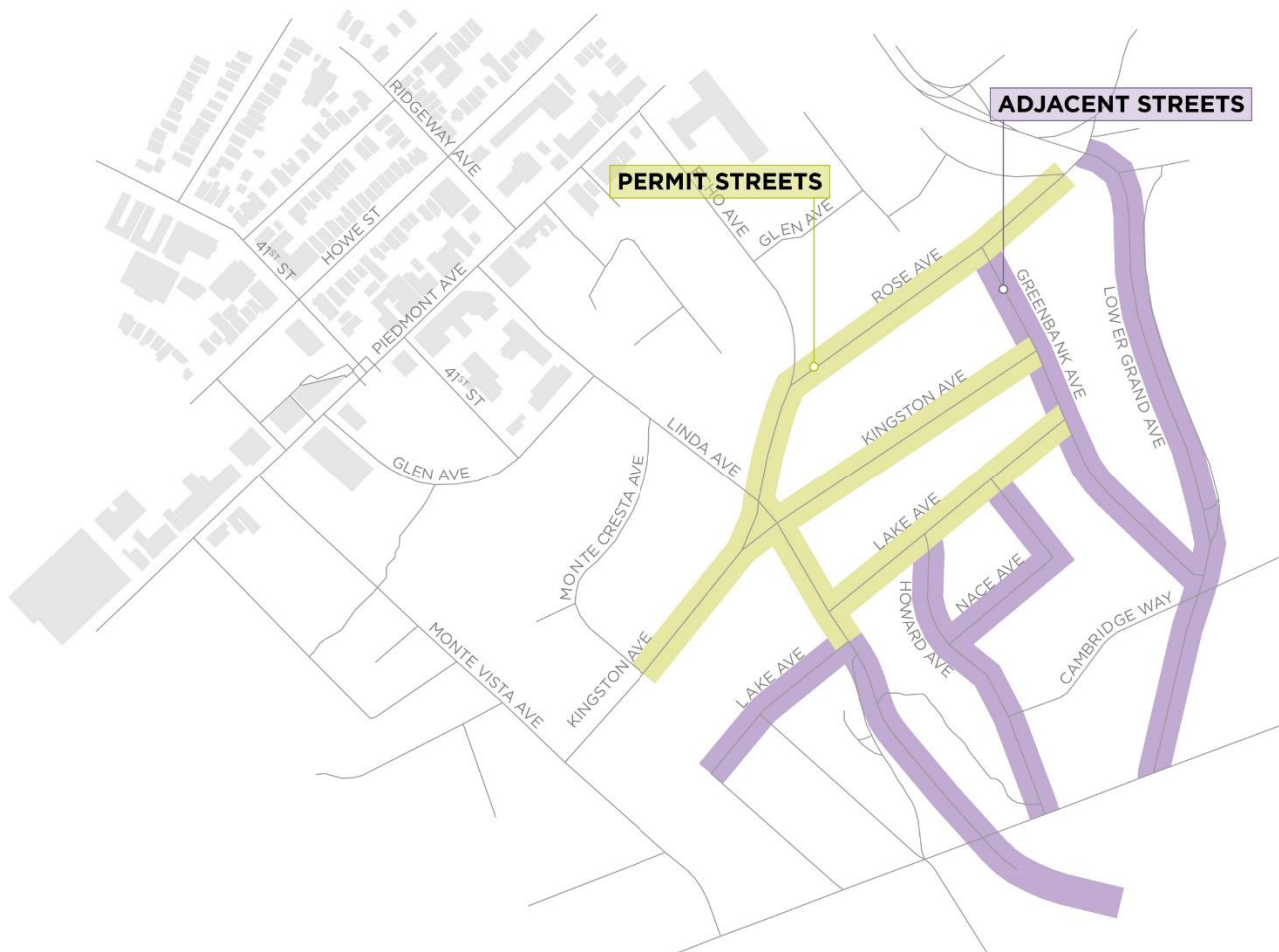
This section describes the data collection process, which included manual license plate surveys and obtaining vehicle registration data from the California Department of Motor Vehicles (DMV). The data were collected before the implementation of the permit parking program (“Before”) and after the implementation (“After”). The process used to collect and analyze the data in the “Before” and “After” conditions was identical.

STUDY AREA

The data collection was performed for the permit streets as well as adjacent streets. Data from adjacent streets are used to inform on the effect that permit parking had on parking patterns outside of the permit parking area.

Figure 2 below shows the boundaries of the study area.

Figure 2: Study Area



PARKING DATA

Parking data were collected before and after the implementation of the permit parking program. The data were collected for five (5) one-hour data collection periods, as shown in Figure 3. To ensure the data set would be representative of different parking conditions during the week, data collection tours were conducted during a busy time when non-residents are believed to park in the area late at night (i.e., Friday), and a set of data collection tours were conducted during a “normal” evening time (i.e., Wednesday).

Quality Counts, LLC (Quality Counts), a subconsultant to Kittelson & Associates, Inc., performed most of the field data collection. During the study periods shown in Figure 3, Quality Counts staff documented the license plate number and location of all vehicles parked on the streets in the study area. Table 1 presents a sample of the data collection format.

Figure 3: Dates and Times for Parking Data Collection

BEFORE

Friday, February 10, 2017

9:00pm Busy Night

Saturday, February 11, 2017

5:00am Busy Night

Wednesday, February 15, 2017

9:00pm Normal Night

Thursday, February 16, 2017

5:00am Normal Night

12:00pm Heavy Non-Resident

AFTER

Wednesday, May 16, 2018

9:00pm Normal Night

Thursday, May 17, 2018

5:00am Normal Night

12:00pm Heavy Non-Resident

Friday, May 18, 2018

9:00pm Busy Night

Saturday, May 19, 2018

5:00am Busy Night

Table 1: Data Sample

Submission Date	License Plate ¹	State	Study Street	Geolocation ²
2/16/2017 5:51	7----7	CA	Kingston Avenue	37.82575, -122.24654
2/16/2017 5:17	6----3	CA	Rose Avenue	37.82684, -122.24678
2/16/2017 5:22	7----3	CA	Rose Avenue	37.82500, -122.22989

¹ License plates truncated for privacy

² Geolocation was obtained from the data collection device’s GPS unit

VEHICLE REGISTRATION DATA

The registered addresses of vehicles parked on-street during the data collection tours were obtained from the California DMV through the Piedmont Police Department. The license plate “scan” returned addresses for approximately 80 percent of the observed vehicles. Of the license plates for which matching addresses were identified, about 10 percent are registered more than 30 miles from Piedmont, with many registered in Southern California. The share of registered addresses far from Piedmont can be attributed to people delaying updating their vehicle registration or people driving a vehicle owned by a friend or relative.

PARKING SUPPLY INVENTORY

On-street parking spaces were inventoried to determine the amount of on-street parking present in the neighborhood. Within the permit parking area, 310 on-street parking spaces are present. On adjacent streets, 326 on-street parking spaces are present¹. Appendix A presents the parking supply data collected in the field.

¹ These figures represent the implemented permit parking area. Prior to implementation—but after the “Before” dataset was collected—the permit parking area was extended slightly to cover an additional 32 spaces on Rose Avenue.

FINDINGS

The findings of the before-after data collection and analysis are presented separately for the permit streets and the adjacent (i.e., non-permit) streets. To provide context to the findings of the before-after study, the thresholds described in the Justification for Permit Parking section are included in the charts.

PERMIT STREETS

As shown in Figure 4, the residential parking permit program increased the number of available spots across all periods collected. The largest increases in available parking spots were observed on Friday night and Saturday morning, when the parking occupancy dropped from upward of 80 percent to approximately 60 percent. Even though parking is not restricted during daytime hours, a noon observation indicates that there are more available spots during the daytime as well.

Regarding compliance, about 80 percent of vehicles parked in study streets had a permit during enforcement hours.

Figure 4: Parking Occupancy on Permit Streets by Time Period

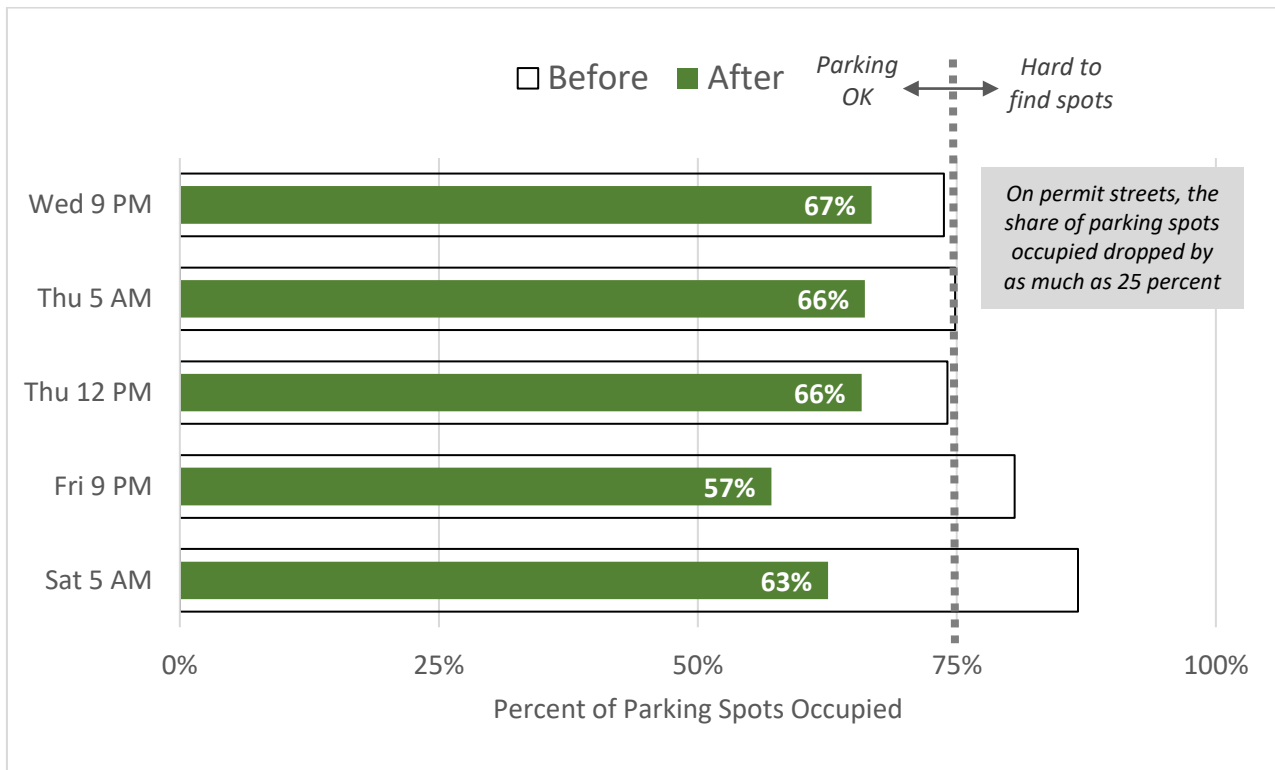


Figure 5 and Figure 6 provide additional detail by differentiating between area residents and visitors—before and after the implementation of the permit parking program. Visitors are further divided as “Non-Piedmont” (i.e., vehicles registered outside the study area in other cities) and “Other Piedmont” (i.e., vehicles registered outside of the study area but within Piedmont boundaries). Figure 6 shows a clear reduction in visitor parking during enforcement hours. The Thursday noon observation—when parking is unrestricted—shows slightly lower visitor activity when compared to the “Before” condition.

Figure 5: Parking Occupancy on Permit Streets by Time Period and Residence (Before)

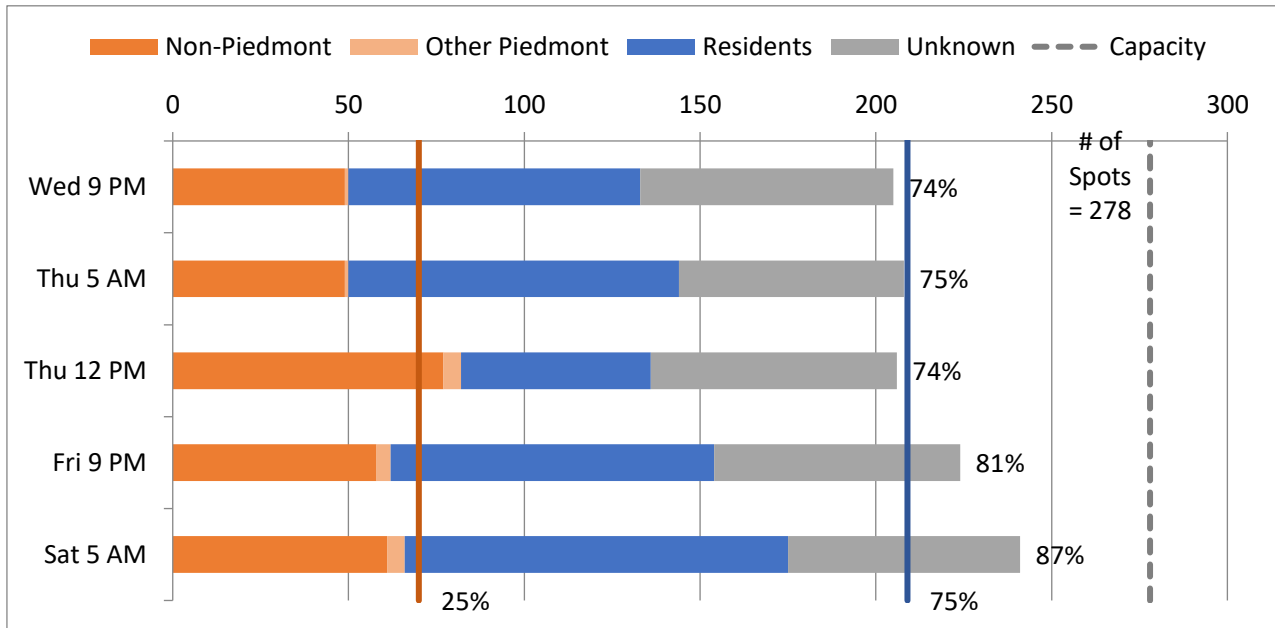
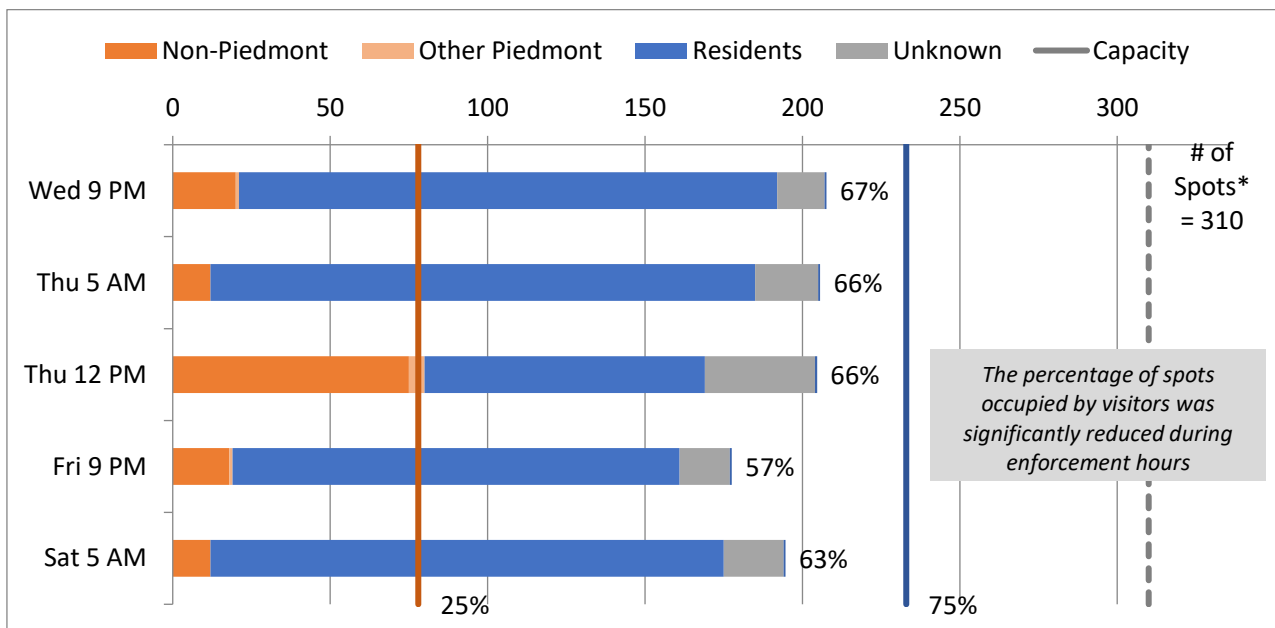


Figure 6: Parking Occupancy on Permit Streets by Time Period and Residence (After)



* The “After” number of spots include 32 additional spots on Rose Avenue resulting from an expansion of the permit area.



ADJACENT STREETS

Parking occupancy on streets adjacent to those in the permit parking program were surveyed “Before” (Figure 7) and “After” (Figure 8) the permit program implementation. All time periods observed showed an increase in parking activity, although the adjacent streets (as a whole) had more than 40 percent of parking spaces still available. As shown in the figures below, the increase in parking activity on adjacent streets is mostly due to more parking by neighborhood residents—as opposed to visitors. Because the permit program limited the number of permits and eligible households, it is likely that some residents of permit streets have shifted their parking to adjacent streets.

Figure 7: Parking Occupancy on Adjacent Streets by Time Period and Residence (Before)

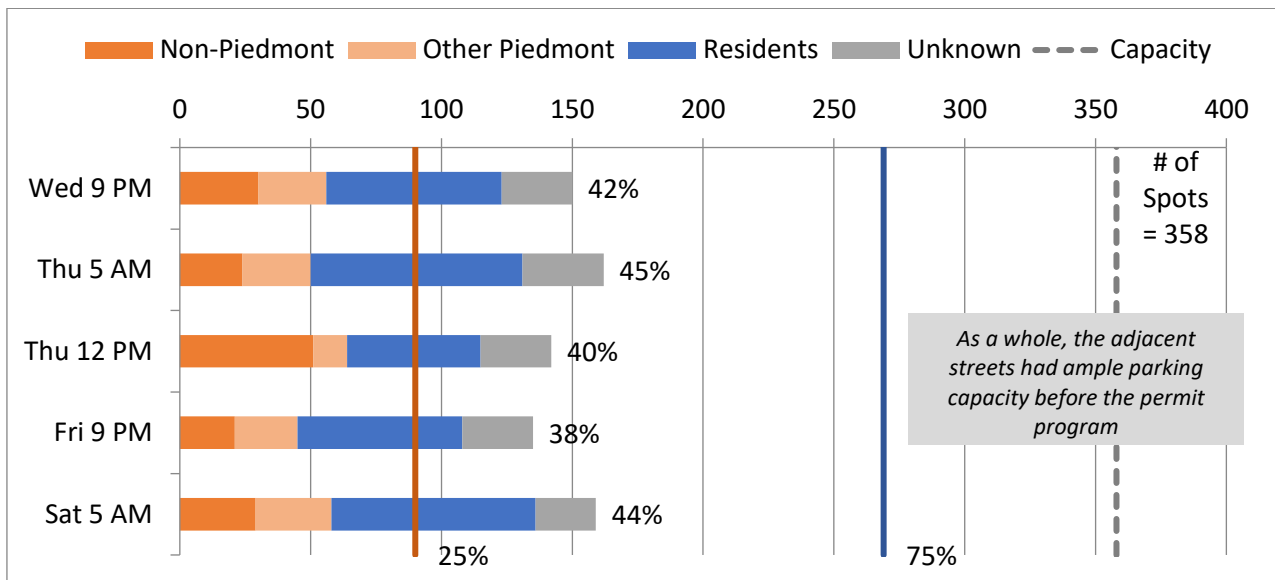
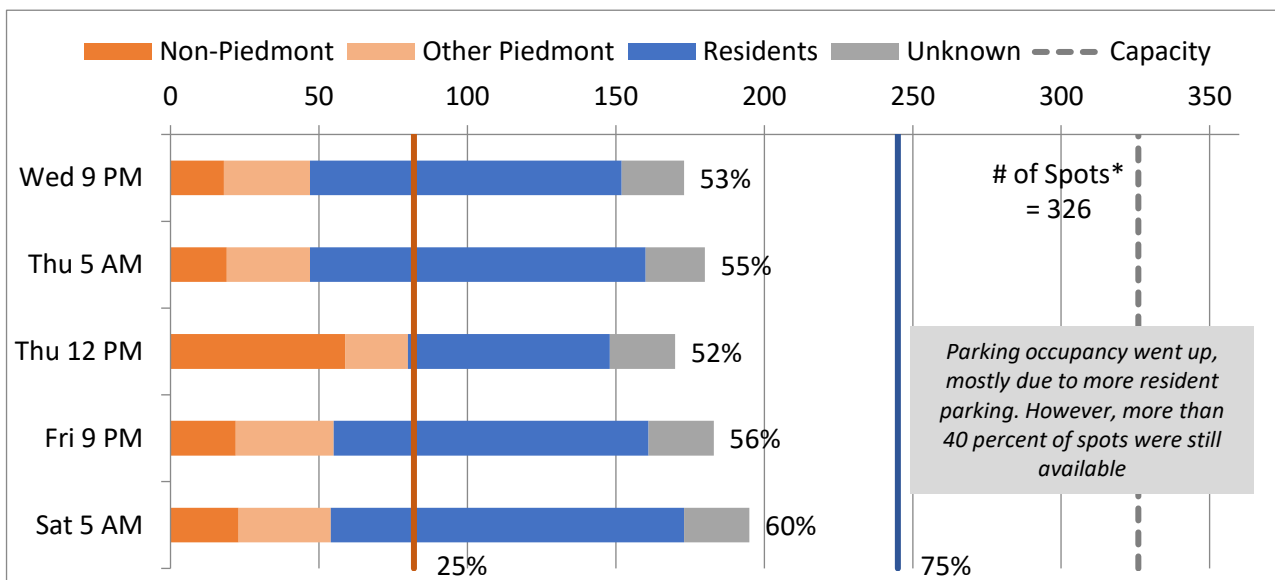


Figure 8: Parking Occupancy on Adjacent Streets by Time Period and Residence (After)



* The “After” number of spots exclude 32 spots on Rose Avenue that were added to the permit area.



Figure 9 and Figure 10 provide additional detail on the median and maximum parking occupancy observed on each of the adjacent streets. These charts show that parking patterns were generally unchanged except for Greenbank Avenue, which saw increased parking activity during all time periods.

Figure 9: Median Parking Occupancy on Adjacent Streets by Street

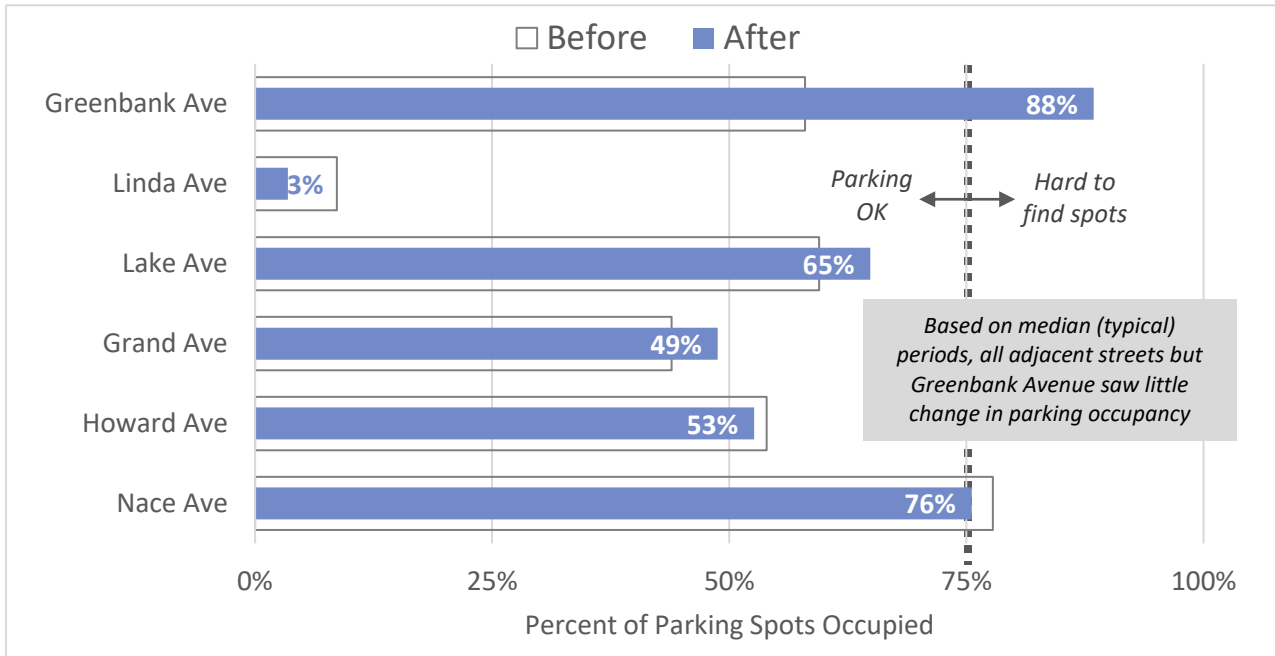


Figure 10: Maximum Parking Occupancy on Adjacent Streets by Street

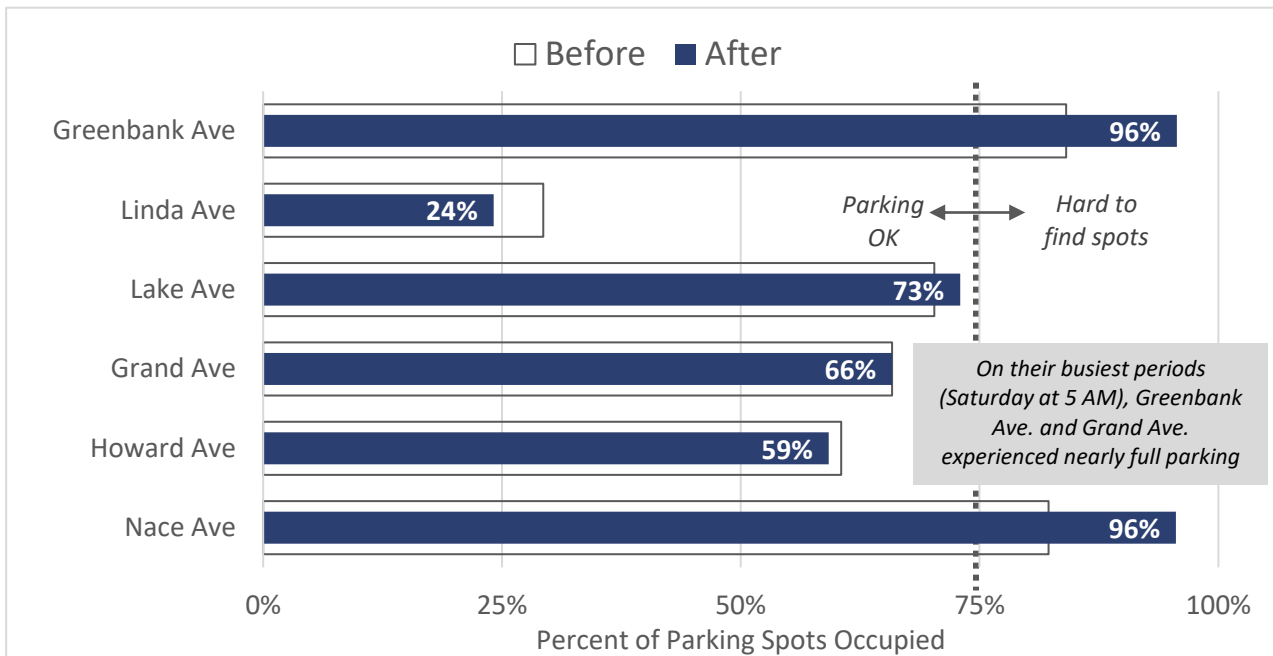
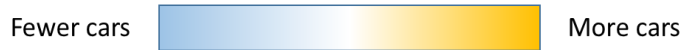


Table 2 presents the numerical change in parked vehicles from the “Before” condition to the “After” condition—reported by street and time period. The largest increases (i.e., +27 cars and +29 cars) were observed on Greenbank Avenue during the weekend night time periods.

Table 2: Change in Parked Cars from “Before” Condition on Adjacent Streets

Street	# of Spots	Wed 9 PM	Thu 5 AM	Thu 12 PM	Fri 9 PM	Sat 5 AM
Greenbank Ave	69	+10	+5	+11	+27	+29
Linda Ave	58	0	-6	-7	-2	+9
Lake Ave	37	+1	+3	+5	+4	-11
Grand Ave	41	-3	-9	+2	+4	+21
Howard Ave	76	-1	-2	-1	+1	-11
Nace Ave	45	0	-3	+1	0	+8



CONCLUSION

The findings of this before-after study show that the residential parking permit program increased the number of available spots on permit streets across all periods collected—including a Thursday noon observation when permit parking was not enforced.

The data show a clear reduction in visitor parking during enforcement hours. On the Thursday noon observation—outside of enforcement hours—only a slight reduction in visitor parking was noted. This was expected based on the design of the parking permit program, which aimed to minimize the impact to faculty and staff at Beach Elementary School.

An analysis of parking on streets *adjacent* to those in the permit parking area show an increase in parking activity after the permit program was implemented—as was expected. Despite this increase, the adjacent streets (as a whole) had more than 40 percent of parking spaces still available. The increase in parking activity on adjacent streets is mostly due to more parking by neighborhood residents—as opposed to visitors.

It is suggested that continuous monitoring be conducted to keep up with long-term parking patterns in the parking district and its adjacent streets.

APPENDIX A: PARKING SUPPLY INVENTORY

Streets in the Permit Area

STREET NAME	TOTAL	SPACE LOCATED				DATE
		N	S	E	W	
Kingston Ave	133	62	71	0	0	12/17/2015
Lake Ave	51	24	27	0	0	12/17/2015
Rose Ave	76	36	40	0	0	12/17/2015
Rose Ave (extension)	32	16	16	0	0	5/16/2018
Linda Ave	18	0	0	10	8	12/17/2015
INVENTORY TOTALS:	310					

Greenbank Avenue

STREET NAME	TOTAL	SPACE LOCATED				DATE
		N	S	E	W	
Greenbank - West	30	17	13	0	0	2/16/2017
Greenbank - East	39	19	20	0	0	2/16/2017
INVENTORY TOTALS:	69					

Other Adjacent Streets

STREET NAME	TOTAL	DATE
Nace Ave	45	5/16/2018
Howard Ave	76	5/16/2018
Grand Ave	41	5/16/2018
Lake Ave	37	5/16/2018
Linda Ave	58	5/16/2018
INVENTORY TOTALS:	257	