New York City Department of Transportation in conjunction with the New York City Economic Development Corporation

Lower Manhattan Street Management - Placard Parking

Placard Parking Usage in Lower Manhattan

ISSUE 3

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Study Purpose & Background

The streets of Lower Manhattan are a valuable public asset where different user groups compete for limited road space.

Competition for parking spaces along these streets affects their overall capacity. Further, curbside parking spaces are highly valued. A significant portion of the more than 1,300 block faces of curb frontage is allocated to authorized users – vehicles with Placards displayed in their windshield that permit them to park in designated areas. The New York City Economic Development Corporation (NYCEDC) with the New York City Department of Transportation (NYCDOT) commissioned this study to:

- Understand how placards are used in Lower Manhattan
- Assess the availability of curb frontage relative to placard activity

The results of this study are intended to help the City accurately consider existing policies in the context of the future of the Lower Manhattan street network.

Approach & Methodology

Previous efforts to understand the impact of authorized vehicles have relied upon anecdotal information. The objective of this effort is to replace conjecture with empirical evidence to support the conclusions and to allow for informed policy-making.

This study seeks to assess empirically the following performance indicators:

- The share of available parking occupied by authorized vehicles.
- Extent of the use of non-designated areas (e.g., Commercial Vehicle loading zones, meters, etc) by authorized vehicles.
- Areas that are most impacted by authorized parking.
- Quantity of authorized vehicles parking either inappropriately or illegally.

Parking supply is categorized by what is available to different user groups, and the delegated legal permissions that come with various placards and vehicle types. Important figures in this report include:

- Supply by regulation type (e.g. No Standing Except…, No Parking, etc.)
- Supply by user group (e.g. Authorized vehicles, commercial vehicles, etc.)
- Supply by agency type (e.g. Agency Business, Law Enforcement, other)

- Parking Legality (e.g. Illegal at crosswalks vs. Legal at dedicated spaces)

On the demand side, the important statistics developed in the study include:

- Parking by vehicle category (e.g. .government, commercial, taxi, private, etc.),
- Parking by permit (placard) type (e.g. Law Enforcement, Agency Business, etc.).
- Parking by agency type (e.g. Agency Business, Law Enforcement, other)
- Parking patterns (including by time of day, duration, location, clustering, and more)

Parking patterns are described in the report. Key patterns of interest include:

- When and where permitted vehicles park illegally in safety-related conditions (e.g. in crosswalks, at fire hydrants, at bus-stops and in driveways).
- How many park outside of their designated parking supply and where is this happening the most?

Key Findings

Highlights of the study findings are:

- *Curb parking spaces in Lower Manhattan are highly utilized, with 93% of all legal on-street parking spaces in Lower Manhattan occupied during the peak hours (9AM-5PM).*
- *Vehicles with agency and law enforcement permits, when combined with marked official vehicles (e.g., police cruisers, DOT bucket trucks), are a large share of the vehicles parked on-street, comprising 43% of vehicle-hours from 9AM-5PM. Law Enforcement placards are the major component of these vehicles (23% of all vehicle-hours). (A vehicle-hour is one vehicle parking for one hour. Thus, a vehicle that parks for three hours uses three vehicle-hours.)*
- *Nearly 1 in 8 permitted vehicles were illegally parked at a bus stop, crosswalk, fire hydrant, driveway, or were double-parked.*
- *Placards displayed by 9% of all agency and law enforcement permitted vehicles were deemed to be inauthentic or illegitimate in some way.*
- *Vehicles with agency and law enforcement permits use more of the parking supply than is allocated to them, occupying 49% more spaces than are allocated to them during the hours of 9AM-5PM.*
- *Vehicles with permits take space away from other designated uses such as curb space for commercial vehicles – 22% of loading zone spaces were removed from the commercial supply due to permitted vehicles parking in those spaces*
- *Similarly, 18% of metered spaces were removed from the general public's supply due to permitted vehicles parking in those spaces.*

- *Permitted vehicles park for longer periods, on average, than other vehicles, thus consuming disproportionately more space hours. Agency and law enforcement permits park on average for 4.0 hours compared with 2.7 hours for privately owned vehicles.*
- *42% of agency business permits park outside of their dedicated parking supply for more than three hours, which is in violation of their permit.*
- *Over the course of a typical day (9AM-5PM) over 3,300 vehicles in Lower Manhattan display an LE permit, resulting in nearly 14,000 vehicle hours. This represents almost one-quarter of the total observed vehicle-hours in Lower Manhattan.*
- *The peak demand for agency and law enforcement permits is 5,805 and 13,494 vehicle-hours respectively, while their peak supply is only 7,052 and 5,937 space-hours, respectively. Therefore, while agency permits are technically parking within their allocated supply, vehicles with law enforcement permits use 127% more space hours than are designated for them from 9AM-5PM. This may indicate that the space allotment for law enforcement is not sufficient for its needs during those hours.*

The data provides insight into the parking patterns in Lower Manhattan, with specific attention paid to authorized (i.e. placard/permit -using) vehicles. The report concludes that official vehicles (marked or permitted cars) comprise a large share of the vehicles parked on-street (43% of peak hour vehicle-hours), and of these, Law Enforcement placards are the major component of this demand (23% of all vehicle-hours). The data indicates that either the curbside regulations, as currently configured, allocate insufficient space specifically to these official uses, or there are too many placards relative to available curbside supply.

Such excess use (demand) is satisfied by authorized vehicles parking in the commercial vehicle loading and unloading zones and metered and unregulated areas intended for the general public -- as is allowed by their permit. While the share of parked commercial vehicles is small (12% of total vehicle-hours), the use of spaces dedicated to commercial but used by official vehicles makes goods delivery more difficult. This contributes to double parking or the movement of goods down sidewalks from a remote parking spot, both negatively impacting the streets and sidewalks of Lower Manhattan.

Official vehicle parking in public spaces also makes it more difficult for shoppers, employees and residents to find parking in order to access stores, homes, etc.

The peak hour occupancy figure of 93% would suggest that some parking spaces remain available during the course of the day. Effectively, however, during peak hours of the day throughout the study area, very little parking is available. 85% occupancy is typically seen as the cutoff before constant “circling” occurs by vehicles looking for spaces but cannot find any. 93% occupancy for all of Lower Manhattan means that only 7% of the supply is available and it could be located at any one moment anywhere in the entire study area. Additionally, some locales within the study area,

such as the residential portions of eastern Chinatown, do not have a parking problem and thus bring the occupancy rate down while many areas are at or above the 100% threshold.

The lack of supply exacerbates apparent disregard by official vehicles (1 in 8) for basic safety-oriented parking rules including prohibitions against parking in crosswalks, at fire hydrants, bus stops, no stopping areas, and double parking.

Finally, the study found a substantial occurrence of fake permits (9% of all permits displayed) including counterfeits, and pseudo placards (reportedly issued by third parties, including pension funds and civil service unions). This practice takes away spaces from both legitimate, official needs and the general public at large.

On January 3, 2008, after completion of the report, Mayor Michael Bloomberg announced a comprehensive program to reduce the number and misuse of government parking placards. This effort is part of the City's efforts to reduce traffic congestion, decrease the City's carbon footprint, encourage the use of public transportation and reduce the demand for curbside parking in connection with City business. This policy shift will enable the City to address the need to study and analyze the re-allocation of on-street parking in Lower Manhattan.

Report Organization

This report provides a technical summary of the objectives and methodology for the study, as well as the specifics regarding the parking data collection and analysis for the entire Lower Manhattan study area. Breakdowns are then produced for specific sub-areas in order to observe local patterns. These areas include:

- Chinatown/Civic Center;
- Financial District;
- Greenwich South;
- Battery Park City; and
- Tribeca.

The report first details data collection methods used for this. The methodology includes:

- Defining the study area and sub-areas;
- Setting approaches for collecting, formatting, and analyzing the data;
- Establishing categories of vehicles, permits, and agencies; and
- Understanding and working with the on-street parking regulations in the area.

Overall, the report is organized into sections as follows:

- Section 1 – Introduction
- Section 2 – Approach
- Section 3 – Methodology
- Section 4 – Observations
- Section 5 – Parking Supply
- Section 6 – Parking Demand
- Section 7 – Conclusion
- Appendices – Additional Tables and Information

1 Introduction

1.1 Goals and Objectives of Study

As Lower Manhattan changes and begins to resemble the Mayor's vision of a vibrant live-work-entertainment 24/7 community, the needs for access of its various constituencies will change. This is already beginning to happen in Tribeca and the Wall Street area. Further change will come with the development of major projects such as the East River Waterfront, Fulton Street Transit Center, and the World Trade Center, as well as the Second Avenue Subway and Governor's Island, and throughout the course of the rebuilding of Lower Manhattan. While many of these uses speak to walking trips, the commercial activity they spawn may require deliveries, construction, and other auto based uses.

In the development of a street management framework for Lower Manhattan (2004), stakeholders frequently brought up the issue of authorized parking, also known as "placard parking" (from the placards displayed in vehicle windshields). The general perception was that the quantity of "placard" vehicles was excessive and that the use of curb frontage by them prevented other legitimate users, such as commercial vehicles and the general public, from coming to LM because spaces are rarely available. Stakeholders also noted that a lack of parking spaces results in double parking by commercial vehicles and excessive circulation in search of a space, both leading to increased congestion in LM. The congestion, lack of access, and dissuasion of customers were seen as a burden to businesses operating and seeking to operate in LM.

The purpose of this study is to survey and quantitatively analyze the use and mis-use of parking, particularly "authorized parking" in Lower Manhattan (LM) south of Canal Street. Report findings will enable NYCDOT to assess the impact of these patterns on all users of the street network. The observations and quantitative results of the analysis may be used by NYCDOT for the purpose of formulating a broad spectrum of policies with respect to the management of parking in Lower Manhattan.

A secondary objective of the study is to use the wealth of data collected to support policy decisions to address the future planning for the area. By observing how various user groups appropriate the parking supply, opportunities to address the mismatch between supply and demand can be crafted to better serve the community and its various interests.

This report focuses on all of Lower Manhattan, with detailed analyses for individual sub-areas. It provides the background information on the rules of parking and permits, the resulting parking supply, and parking patterns and issues in Lower Manhattan.

The collected parking data will also assist the Lower Manhattan Street Management project to prepare and validate a traffic simulation model to assist the Lower Manhattan Construction Command Center in managing the traffic during the reconstruction of the WTC and various other roadway, transit and building construction projects downtown. With the assistance of NYSDMV, the license plate data for NY plates will be correlated with zip codes of registration. These, in turn, will be aggregated to the perimeter cordon zones of the traffic model. As the downtown destination, time of arrival/departure and vehicle type are known from the parking data. Therefore, the various modal trip tables that drive the simulation will be improved in their accuracy to real world travel patterns, resulting in a more accurate model of existing conditions in Lower Manhattan.

1.2 Organization of the Report

This report is organized to allow the reader to understand the reasoning for the study, its approach, and the results that were derived from the study. The sections include:

- Approach (Section 2): Provides background into the parking situation, some commonly used terminology, permit parking issues, approaches to manage parking, and how to analyze supply versus demand.
- Data Collection (Section 3): Describes the actual data collection effort. This includes the mobilization of the team, procedures in the field, data to be collected, and background behind regulations, permits, and users.
- Observations (Section 4): Provides some general observations. This section is devoted to the supply vs. demand question, and provides a general understanding of what the numbers actually mean along with a synopsis of what is occurring on the streets of the study area.
- Parking Supply (Section 5): Provides information on the current parking situation in the study area. It deals with the amount of curb space that is available to various vehicle, permit, and agency types for parking and the breakdowns by regulation categories. This section is divided into six parts, one for all of Lower Manhattan, and one for each of the five sub-areas.
- Parking Demand (Section 6): Displays and summarizes actual data simply through a series of graphs, tables, charts, and maps. This section is also divided into six parts, in the same manner as the supply section.

Data was collected over the course of two successive 14-hour days; however, the peak portion of one day (9AM-5PM) was used to describe the indicative results of the analyses.

A few exceptions, such as the 3-hour permit parking rule and meter feeding, display results for longer periods. Most tables and graphs for the 9AM-5PM timeframe that are included in the body of the report are repeated for the 7AM-9PM (all day) in Appendix C. Additionally, when needed, an hour-by-hour discussion is used, and most of the maps in Appendix A are provided in this manner.

2 Approach

2.1 Developing factual information

A parking usage study for all of Lower Manhattan, south of Canal Street, was designed to quantify how curb space is utilized. The study collected data for all parked vehicles within the study area. In order to quantify the usage and turnover of vehicles at the curb, the following data was collected for every blockface of the study area at hourly intervals throughout the day (14 hours per day)

- Parking space;
- License plate;
- Vehicle type; and
- Permit type (if applicable)

To capture information about the overnight use of the curb space by residents and other users, as well as to increase the statistical validity of findings, data was collected successively over two days for each route. A total of 11 sets of two-day data gathering were undertaken for the Lower Manhattan study area.

2.2 Terminology

There are a number of special terms used in this report:

Authorized Parking - Granting of parking privileges on the basis of permits or other displayed features of a vehicle (agency emblem on door, taxi medallion, commercial vehicle markings, and license plates). This privilege is given to federal, state, city agencies as well as people with disabilities, clergy, film shoots, press, diplomats and ambulances.

APU – Authorized Parking Unit, a unit within the NYCDOT responsible for issuing Agency Business permits to non-law enforcement agencies. They also allocate curb space to authorized vehicles.

Authorized Vehicles – Includes identifiable governmental vehicles, which may or may not have a placard displayed, that have clear markings or a license plate identifying them as a governmental vehicle. These include vehicles with diplomatic plates. Authorized vehicles also included all vehicles (privately owned or governmental) that displayed what appeared to be a legitimate governmentally issued permit. (Also called **Official Vehicles**)

Marked Vehicle – Government owned vehicle displaying distinctive markings or license plates indicating its ownership and authorization. A permit need not necessarily be displayed.

AB – Agency Business parking permit

LE – Law Enforcement parking permit (inclusive of federal, state and city law enforcement agencies)

Permit - A legal authorized card displayed in the windshield of a vehicle for the purposes of conveying an authority to park, also known as a **placard**.

Fake Permits – Any inauthentic permit, distinguished by several different categories:

- **Counterfeit**: A display produced to emulate an official placard (usually produced by means of a laminated photocopy) placed in the windshield,
- **Pseudo Placard**: An unofficial permit personally made, or issued by a non-governmental entity (e.g. a union), that suggests a permit's privileges. This differs from a **counterfeit** placard that seeks to emulate an officially-issued permit.
- Other types include letters, signs, or other devices (e.g. traffic cone on roof), that purport that the vehicle has an authority to park (when it actually does not).

Supply - Number of parking spaces provided under various regulations

Demand - Use of parking spaces, legal and otherwise

Space Hours - Total hours of allowed parking under a particular regulation for a given space or collection of spaces.

Vehicle Hours - Cumulative total number of hours a vehicle or group of vehicles are parked on a given day. One vehicle hour is equivalent to one vehicle parked for one hour. All vehicle hours summaries are representative of one day (either 7AM-9PM or 9AM-5PM)

Duration - Length of stay for a parked vehicle

Turnover - Number of different vehicles observed using a parking space over the course of a study period

Regulation Extent – Linear distance of a regulation upon a block face as defined by a pair of signs exclusive of fire hydrant spaces (30'). Developed from the STATUS sign database.

STATUS – NYCDOT's sign management database and the tools developed by the Lower Manhattan Street Management project to interrogate, map, and summarize its data.

Study Area – Entire Lower Manhattan area in which data was collected (see Figure 4)

Sub Area – Five areas wherein results will be collated and assessed (see Figure 4)

Set – A two day data collection effort involving a number of data collectors covering 5-8 contiguous routes wholly within a sub-area

Route – A series of contiguous block faces repeatedly traveled by a data collector

Blockface – Curb frontage on one side of the street. Each street has two curbs from cross street to cross street, each of which is referred to as a blockface.

Meter Feeding – When a vehicle parks at a meter and continually places money into a meter beyond the hourly limit shown in the regulation

2.3 Identifying Placard Usage

The previously noted collected data has been analyzed to identify the usage of Lower Manhattan's curb space by authorized, commercial and general public vehicles. Figure 1 shows an example of a legitimate law enforcement permit commonly seen in the field.

Figure 1 - Example of legitimate DOI law-enforcement permit[1]

There are a variety of permit types, from movie location scout, to law enforcement, NYCDOT issued agency permits, handicap persons, and single use permits. Data collectors were provided with training and photocopies of examples of these and differentiated the type of permit in their recording of the data. As appropriate, the designated agency to which the permit was issued was also recorded.

As a part of the mobilization for the data collection, NYCDOT requested the team to note fake permits (or those that at least appeared fake, counterfeit, or illegitimate in any way) to the best of their ability. Knowing that this would be a judgment call on their part, the team created a series of categories for them to use when identifying these permits. If the permit appeared to be a fake, the data collectors were to use the following to describe them:

- Counterfeit;
- Pseudo Placard (issued by a non-governmental organization);

[1] Source: New York City Department of Transportation

- Letter;
- Sign; or
- Other

Figure 2 shows an example of a counterfeit Dept of Health enforcement permit that has been placed in a vehicle.

Figure 2 - Example of counterfeit Dept of Health enforcement permit[2]

2.4 Assessing Parking Supply versus Demand

Using NYCDOT's STATUS GIS tool developed earlier by the project team for the Lower Manhattan Street Management project, along with data on crosswalks, fire hydrants, bus stops and driveways, and confirming with aerial photography, the study team was able to map the location of most of the parking spaces in the study area.

Using NYCDOT's STATUS system, each space was then categorized based on the active parking regulations on that curb. Based on the regulations over the course of a day, a value for available spaces and space-hours, by regulation type, and user group, can be ascertained. Figure 3 shows parking space locations displayed in a GIS map, along with various parking regulations.

[2] Source: New York City Department of Transportation

Figure 3 - GIS map showing parking space locations with STATUS regulations, fire hydrants, and bus stops

Since the type of authorization or issued permit has specific rules regarding parking, the legality of use by the various permit types could be determined for each space. This enabled quantification of the legal parking supply for each permit type. Similar regulations apply to commercial vehicles and to the general public, thus legal extents of parking could be identified and quantified for these user groups as well.

Because there is a hierarchy of authorization, the sum of all user groups' available parking is larger than the parking supply (e.g., commercial vehicles can park in general public spaces, agency permits can park in commercial and public spaces, law enforcement permits can park in agency, commercial and public spaces, etc.).

For some permits (and for the general public at meters), the duration of legal parking is limited when parking outside of designated areas. These vehicles were flagged as becoming illegal when these time limits expired.

In assessing use of the parking supply, the team distinguished between parking spaces allocated to a specific agency, and parking spaces available to the permitted vehicle, but actually designated for other users such as commercial loading zones, and general public parking. In addition, parking in "always illegal" spaces (crosswalks, bus stops, fire hydrants) was identified and quantified.

3 Data Collection

3.1 Study Area

Data was collected for this report throughout all of the Lower Manhattan study area; principally all streets south of and including Canal & Rutgers Streets from river to river. For the purposes of this study, this area was expanded slightly north to include Howard and Hester Streets.

In order to properly analyze local conditions within the study area, and to break-up the data analysis into areas congruent to Lower Manhattans communities, the study area was divided into five sub-areas. These are as follows:

- Chinatown/Civic Center;
- Financial District;
- Greenwich South;
- Battery Park City; and
- Tribeca.

Figure 4 represents all of the Lower Manhattan Street Management study area, and the five sub-areas for the parking study.

All supply and demand sections are broken into six sections, one for Lower Manhattan (LM) as a whole, and the other five representing the sub-areas.

The following sections detail the boundaries and environs of these sub-areas.

Figure 4 - Lower Manhattan Street Management Study Area and Sub-areas

3.1.1 Chinatown/Civic Center

The Chinatown/Civic Center sub-area contains the heart of what is commonly referred to as “Chinatown”, which is the area south of Canal Street and around/under the Manhattan Bridge. Additionally, it also covers the Civic Center area between Chinatown and the Financial District.

While Chinatown proper is a busy mix of residential and commercial land uses, the Civic Center is dominated with office and governmental buildings. Located within the study area are the NYPD 5th Precinct Station, state and federal courts, NYPD headquarters, NYSDMV, the city jail, the city detention center, and numerous federal, state, and city government offices.

The boundaries of the area include Canal Street to the north, Rutgers Street and the East River to the east, Church Street to the west, and Ann Street/Peck Slip to the south. To include coverage of additional parking issues, the study area was slightly extended north to Hester/Howard Streets between Broadway and Chrystie Street.

The Chinatown/Civic Center area is depicted as Area #1 on the map, and is commonly referred to throughout this report as “CCC.”

3.1.2 Financial District

The Financial District sub-area contains the neighborhood of the same name. This area is transit-dominated and known for its haphazardly laid out streets and skyscrapers.

This has traditionally been an entirely commercial area, as the Financial District is one of the largest central business districts in the country, and is dominated by high-rise office buildings. However, following the September 11th attacks, many of these buildings have been converting to residential. Additionally, the Seaport area is mostly devoted to retail and tourism.

The specific boundaries for the sub-area are Trinity Place to the west, the waterfront to the south and east, and Ann Street/Peck Slip to the north.

The Financial District area is #2 on the map and referred to as “FD.”

3.1.3 Greenwich South

The Greenwich South sub-area is a small, narrow strip of blocks south of the World Trade Center. This area has some governmental and office buildings, and is undergoing a large amount of construction to its streets and blocks.

This is the smallest of the sub-areas and this leads to very specific data, as which will be seen. The boundaries are West Street to the West, Battery Place to the south, Trinity Place to the east and Liberty Place to the north.

Greenwich South is #3 on the map and referred to as “GS.”

3.1.4 Battery Park City

The Battery Park City sub-area contains the neighborhood of the same name. This is a relatively new development, consisting of a residential-commercial mix of land uses situated between West Street and the Hudson River.

The sub-area is synonymous with the neighborhood, as in all blocks west of West Street between Chambers Street and Battery Place.

Battery Park City is #4 on the map and referred to as "BPC."

3.1.5 Tribeca

The Tribeca sub-area is another residential-commercial mix of land uses, although not as new as BPC. There is a decent amount of office space as well as industrial buildings converted to residential.

This sub-area is also synonymous with the neighborhood. The name of the neighborhood comes from the **Tri**angle **Be**low **Ca**nal.

The boundaries include Canal Street to the north, West Street to the west, Vesey Street to the south, and Church Street to the east.

Tribeca is #5 on the map, and referred to as "TBC."

3.2 Data Collection Effort

The hours of data collection were set to capture the departure of overnight parkers early in the morning and the arrival of the workforce (after 7AM). In the evening, the opposite departure of day workers and the transition to returning residents and other overnight parkers was captured (before 9 PM). This resulted in a data collection day from 7AM-9PM, a total of 14 hours. Data collection began September 19 and was mostly concluded by November 15, 2006.

The survey sets were conducted over two days so that the resultant data could:

- Determine the degree to which parking was repetitive versus occasional;
- Determine the quantity and distribution of overnight parkers;
- Understand the effect of "day of week" regulations; and
- Improve the statistical validity of the observations.

To gain the most utility, the survey days needed to be sequential. Parking "holidays" and the forecasted weather were monitored to assure that collected data would be able to conform to this objective.

The block faces in each study sub-area were organized into routes that the data collectors could walk and collect data on in under an hour. A total of 125 routes were created.

The study sub-areas were further divided into two-day sets of typically, eight adjoining routes each. Given the 14-hour data collection day, two shifts of data collectors were used.

As the data collectors began the field portion of their shifts (7AM or 2PM), they sequentially collected data on every vehicle encountered on their route. The data collected included:

- License Plate;
- State of License Plate;
- Type of Vehicle;
- Type of Permit; and

If the vehicle was double parked, this was additionally noted. If the space was empty, that was noted.

When undertaking subsequent tours of their route, data collectors referenced previously collected data and notes whether a vehicle still remained, the space was now vacated, or a new vehicle had parked. If the latter, the new vehicle's data was then collected.

Because uniformity of description was desired in identifying the types of data, the data collectors were trained and supervised during each shift. The data collected was reviewed and weekly team meetings resolved data collection issues over the course of the effort.

A series of two-letter codes were developed to expedite and provide uniformity of data entry for vehicle and permit types. These codes are listed in Table 1 & Table 2. Of note is that a "van" is a large (15-20') six-tire delivery vehicle and excludes the "Econoline" type van typically used by contractors and purveyors.

ID	Vehicle Type	Description	Examples
PC	Private Car	private car, minivan, pickup, SUV, Econoline van	-
MT	Motorcycle	-	-
CC	Commercial Car	car, minivan, pickup, SUV, Econoline van with writing on door and/or commercial plates	-
CV	Commercial Van	6-tire 20' or less commercial unit delivery vehicle (including van front/box behind)	FedEx/UPS, van/box combos, "short box trucks"
CT	Commercial Truck	6-10 tire 21' or longer single-unit box truck "long box trucks"	-
TT	Tractor-Trailer	any truck with separate cab and trailer	classify standing trailers as Other
GC	Government Car	car, minivan, pickup, SUV with government writing on door, official plates, and/or permit	-
GV	Government Van	standard van (no box or extra axles) with government writing on door, official plates, and/or permit	USPS delivery van, city agencies
GT	Government Truck	any size government agency (non-commercial) truck	garbage truck, MTA truck, large USPS truck
PD	Police Car	-	-
AB	Ambulance	-	-
FT	Fire Truck	-	-
TV	Transit Van	standard van used for transit (non-commercial) use	airport shuttles, dollar vans
CB	City Bus	MTA city bus with doors in front and back	M1, M5, M20
RB	Regional Bus	Larger coach-style regional/commuter buses with doors only in front	MTA Xpress, Peter Pan, Greyhound
TB	Tour Bus	Bus used for sight-seeing and tourist operations	Gray Line (hop-on/hop-off, double-deckers)
TX	Taxi	TLC-licensed NYC yellow cab	-
BC	Black car/Livery	Other TLC/Livery licensed vehicle	Black cars, limos, NJ cabs
DM	Dumpster	garbage receptacle taking up parking space	near construction sites
OT	Other	anything else that is not one of the above, but takes up parking spaces	trailer, container, debris, barriers, crane, film gear
CL	Closed	anything that closes parking spaces leaving them empty	construction zone, closed area, film shoot

Table 1 - Vehicle Types

ID	Permit Type	Description
LE	Law Enforcement	any law enforcement permit issued by NYCDOT or NYPD
AB	Agency Business	any city agency business permit issued by NYCDOT (2006/2007 permits were light blue)
PR	Press	red permit issued by NYPD for press-related vehicles
HC	Handicap NYC	has handicapped symbol on white permit issued by NYCDOT
HS	Handicap NYS	blue or red handicapped hang-tag issued by NY State
CL	Clergy	annual clergy parking permit…white permit issued by NYCDOT
FM	Film	red hang-tag titled "Production/Filming Parking Tag"
FS	Film Scouting	white sheet of paper for film scouting…should be accompanied by hang-tag
OS	On-Street Resident	annual on-street parking permit…yellow permit issued by NYCDOT
SU	Single-Use	valid for specific times and locations…blue permit issued by NYCDOT
PP	Pseudo Placard	looks like a placard but not one of the above categories.
LT	Letter	A letter or other official looking document granting parking privileges
SG	Sign	A sign, handmade or otherwise that attempts to excuse improper parking
FK	Fake	A counterfeit representation of a legitimate permit
OT	Other	Anything else that attempts to seek excuse for improper parking

Table 2 - Permit Types

3.3 Survey Tools & Parameters

Various data collection methods were considered early in the project's genesis. Uniformly, these included various technological approaches to expedite data entry in the field, and assure uniformity of attributes used to describe the various parking scenarios encountered. Pinning down the location of vehicles using tools such as Global Positioning Systems (GPS) was also considered. A number of constraints led the team to fall back upon traditional pen and paper as the method to capture field data.

3.3.1 Materials

Data was captured on prepared 11 x 17" data entry forms. Parking spaces (and other street "spaces" such as cross walks, fire hydrants, and bus stops) were arranged in columns. The hours of data collection were arranged in groups of rows. Each group contained spaces for License Plate, State, Type of Vehicle, and Type of Permit.

The forms were specific to each block face and were developed from STATUS and other database information on curb lengths, bus stops, regulation extents, fire hydrants, and building lines (cross walks). A standard parking space length of 20' was used. Developed block face data sheets were reviewed against high quality ortho-rectified photography of LM that clearly displayed parked vehicles.

As stated previously, in addition to the data entry forms, all data collectors had copies of the two-letter abbreviations that were to be used to describe vehicle and permit types, example photos of real and forged permits, and permit type descriptions.

3.3.2 Survey Day

Data collectors assembled an hour before start at the team's offices on Fulton Street and received a briefing from their supervisor, a sheet with their routes for the morning (or afternoon), and the data collection sheets for the blockfaces they would be surveying. They then went to the start of their route with a supervisor and at the beginning of the hour, started the survey. As mentioned previously, they collected data on all vehicles observed during the first tour. The route lengths were designed to enable this first exhaustive round to be completed within an hour to accommodate a short break. The data collector then waited until the start of the subsequent hour to begin a second tour.

The second (and subsequent) times around, the data collector entered a "1" in the license plate field if the vehicle previously identified was still present, a "0" if the space was now empty, or the data of the new parked vehicle. This continued until the shift change at 2PM. In the evening, to assist in reading the data, and for personal security, a second data collector with a flashlight assisted the principal data collector.

At the end of the shift, data collectors returned to the office and submitted their data forms. If, during the course of their rounds, the data collectors had any questions, they were able to phone their supervisor.

3.4 Curb Regulations

The regulatory environment for Lower Manhattan's curbs is exhaustive. All curb frontage is controlled in one way or another, at the very least through alternate side of the street sweeping rules. Regulations typically change over the course of the day, rendering spaces legal or illegal for various user groups. Figure 5 shows an example intersection and the regulations that govern the surrounding blockfaces.

Figure 5 - GIS map showing NYCDOT's STATUS parking regulations

A number of different types of parking regulations exist, though, in some cases, they may not be indicated by signs. For example,

- Safety: In some cases these unmarked regulations are for safety. For example, it is illegal to park in crosswalks, in front of fire hydrants, and in bus stops because of the risk to other users (pedestrians, etc.).
- Assisting Mobility: In some cases, the regulations are there to assist mobility. 'No Stopping' or 'No Standing' regulations prevent vehicles from taking lanes out of use (Curb space adjacent to intersections is often "day-lighted" with No Standing regulations to facilitate turning movements of trucks, buses and other large vehicles).
- Allocation of Space Among Other User Groups: Other regulations allocate the remaining curb space amongst various user groups. These typically take the form of 'No Parking except _____', or 'No Standing except _____'.

- Turnover: Some signage regulates turnover. These include signs and meters that regulate the duration of parking (giving others a chance to park), and the alternate side of the street sweeping rules.

3.5 Permits

As noted in Table 2 - Permit Types, there are a number of different kinds of permits. The permits typically define which regulations vehicles can park under. The Authorized Parking Unit of NYCDOT developed a brochure that identifies the city rules and regulations that permit holders must follow when parking. The rules are to be followed in different ways depending on the permit type. The main rules to be noted are:

- Rule 3: Permits issued by NYCDOT Authorized Parking Unit are valid in "No Parking Anytime" and "No Parking" with specific hours, in "No Standing except Trucks Loading & Unloading" and (except for Press) at meters.
- Rule 4: Government vehicles with Law Enforcement or non-NPA Agency Business Parking Permits, may not park in **No Permit Areas** unless in their agencies' authorized parking. Law Enforcement Permits are valid in **Blue Zone (no parking area for all curbs south of the Brooklyn Bridge and east of Broadway)**. . ."
- Rule 7: At curbsides with rider signs (authorized parking) permits must match the sign; if not, summons and tow. Agencies may use their own identification in these designated spaces only.
- Finally, Agency Business permits are limited to 3 hours when parking outside of their agency's authorized parking areas, such as in No Parking, No Standing except Trucks Loading and metered spaces**.**

Figure 6 shows some of the permit types that are valid for on-street parking in New York.

Figure 6 - Examples of Valid On-street Parking Permits[3]

[3] Source: New York City Department of Transportation: Authorized Parking Unit

As stated in Rule 4, certain permits are also tied to certain geographical areas wherein they are or are not valid. Please see Figure 7.

For Lower Manhattan, these include the No Permit Area (NPA), depicted in gray and blue below and defined as those blocks south of Canal Street, between West Broadway and Bowery/Park Row until Vesey, then all blocks east and south of Greenwich/Trinity/Church and Frankfort Streets down to the Battery. A sub-area of the NPA is the Blue Zone, which includes those blocks inside Broadway, Frankfort Street (Brooklyn Bridge) and South Street. Non-NPA Agency Business permits are not permitted to park in the gray or blue areas. Law Enforcement permits are not allowed to park in the gray areas.

Figure 7 - No Permit Area and Blue Zone[4]

[4] Source: New York City Department of Transportation: Authorized Parking Unit

For the purposes of this study, we can group the permits into two major and one minor group. The first of these is Law Enforcement (LE) permits. These are issued by the various city, state and federal government police units and include nearly all agencies with law enforcement, judicial, or fire-fighting related duties. The second group is Agency Business (AB) permits, which are issued by NYCDOT and include mostly non-law enforcement city, state, and federal agencies.

These two groups constitute 92% of the total number of vehicles observed possessing a legally-issued permit. The third group constitutes all of the remaining 8%, belonging to the other eight legally issued permit types. In order to keep the discussion manageable, and because the number of observations of some of the permits available are modest, the discussion of the parking usage of these minor permit types is kept to a minimum.

The permits can be arranged in a hierarchy according to the various regulations which they are permitted to park under. Some permit types are able to park almost anywhere (e.g., film). Others provide only a minor improvement over options available to the general public (e.g., clergy). Table 3 is a matrix that shows which permit types are permitted to park in which regulation type, based on the rules provided by the APU.

PERMIT TYPE	REGULATION																	
	No Parking Except…							No Standing Except…										
	Authorized Vehicles	Commercial Vehicles	Buses	Taxis	Diplomats	Press	Police	Authorized Vehicles	Commercial Vehicles	Buses	Taxis	Diplomats	Press	Police	Meters	Commercial Meters	No Parking	No Standing	No Stopping
Film (FM)	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
Film Scouting (FS)	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√		
Law Enforcement (LE)	√	√					√	√	√					√	√	√	√		
Agency Business (AB)	√	√						√	√						√	√	√		
Handicapped City (HC)	√	√		√	√	√	√	√	√		√	√	√	√	√	√	√		
Diplomat (DP)					√							√							
Clergy (CL)																	√		
On-Street (OS)[5]																			
Press (PR)	√	√				√		√	√				√				√		
Handicapped State (HS)[6]																			
Single-Use (SU)[5]																			
Pseudo Placard (PP)																			
Letter (LT)																			
Sign (SG)																			
Other (OT)																			
Fake (FK)																			
OTHER VEHICLE TYPES																			
Commercial		√							√						√	√	√		
Buses			√							√									
Taxis				√							√				√				
Government (no permit)															√				
Private															√				

Table 3 - Parking Permissions by Regulation Type

[5] On-Street (OS) and Single-Use (SU) permits are only valid at a specific location that is printed on the permit. These are generally short-term permits that give permission to a vehicle, such as a construction contractor, to park at a specific location near a job or specific place of interest for a short-term period. Since the permit states where it is valid and not valid on a case-by-case basis, it cannot be lumped into any of the above categories.

[6] Handicapped State (HS) permits are only valid in marked handicapped spaces. In New York City, all of these spaces are located off-street, and thus at no times is this permit valid for on-street parking.

3.6 Users

The privileges associated with various permits allow us to categorize the users of the parking supply. Ignoring the minor permits for the moment, we can identify four principal user groups:

- LE - Law Enforcement (permits for private vehicles and government vehicles without permits, e.g., police cars)
- AB - Agency Business (permits and governmental vehicles without permits, e.g., vehicles displaying an agency emblem)
- Commercial vehicles (no permit but distinct license plate and required business name and address on the door); these include Taxis and Black Cars/Limos.
- General Public

Recalling the hierarchy mentioned in Section 3.5 and displayed in Table 3, vehicles are generally able to park in spaces allocated in those user groups below them.

4 Observations

4.1 General Supply vs. Demand

During the peak hours of the study day (9AM-5PM), there are a total of 57,473 known space-hours available for legal parking in Lower Manhattan. Of these space-hours, 53,165 were documented to be utilized during this period. This results in a 93% average occupancy rate for this period.

During the peak hours, AB permit vehicles account for 11% of all parked vehicles, while having 13% of the curb space designated for them. LE vehicles account for 25% of all vehicle-hours, but receive only 11% of the designated curb. This disequilibrium by LE vehicles causes them to park many times in AB areas, which in turn, means that AB vehicles cannot park at their designated curbs. Any additional overflow is then located in non-permit-specific areas, such as meters, commercial areas, taxi stands, and illegal areas such as bus stops or fire hydrants.

More specifically, the peak demand for AB and LE permits is 5,805 and 13,494 vehicle-hours respectively, while their peak supply is only 7,052 and 5,937 space-hours, respectively. Therefore, while AB permits are technically parking within their allocated supply, 227% of the LE permit designated supply is in use from 9AM-5PM.

Of the 10,000+ LE and AB permitted vehicle-hours that are spent parked outside of designated areas, all of them are either parked legally, but inappropriately, and are taking supply away from other users (commercial, public, or otherwise) or they are parked illegally (crosswalk, bus stop, no standing, sidewalk, driveway, double parking) affecting the safety of other street users.

Commercial vehicles are significantly underutilizing their allocated space. Trucks are given 48% of the street space from 9AM-5PM through loading/unloading regulations, but they only make up 14% of the vehicle-hours that were observed. This is possibly caused by improper use of commercial spaces by authorized vehicles.

Out of all the vehicles that were observed parking in commercial loading zones, LE Permits were the most frequent, comprising 29% of all vehicles. Commercial vehicles themselves were next at 27%, followed by the general public at 20% and AB permits at 12%.

The general public has a supply vs. demand ratio similar to that of authorized vehicles. 26% of the curb space is either metered or unregulated over the course of a 9AM-5PM day and thus is open to all vehicles, while 35% of all observed vehicles belong to the general public. In some cases these vehicles parked in areas allocated for AB or LE permits and took their chances.

Table 4 summarizes supply versus demand for the 9AM-5PM peak timeframe.

User Group	Designated Space-Hours	Utilized Vehicle-Hours	Occupancy
LE Permit	5,937	13,494	227.3%
AB Permit	7,052	5,805	82.3%
LE & AB Permits Total	*12,989*	*19,299*	*148.6%*
Commercial	27,356	7,289	26.6%
General Public (meters/unregulated)	14,894	19,195	128.9%
Buses	688	138	20.1%
Taxis	1,354	1,651	122.0%
Govt (no permit)	0	1,283	n/a
Other Permit	0	1,779	n/a
Fake Permit	0	2,001	n/a
Other	193	530	274.9%
Total	57,473	53,165	92.5%

Table 4 – LM Comparative Occupancy across User Groups (9AM-5PM)

4.1.1 Chinatown/Civic Center

The Chinatown/Civic Center has a 96% occupancy rate during the peak hours. During these peak hours, 25,827 out of 26,815 space-hours are utilized.

LE permits occupy 223% of their designated spaces during the peak hours, and LE-AB permits together use 150% of their space-hours. Commercial vehicles have the most space leftover as they occupied only 27% of their peak-hour supply. The general public was observed for 9,754 vehicle-hours, while only having 9,734 available space-hours, a 100% occupancy rate.

Table 5 summarizes supply versus demand for the peak timeframe.

User Group	Designated Space-Hours	Utilized Vehicle-Hours	Occupancy
LE Permit	3,011	6,715	223.0%
AB Permit	3,592	3,165	88.1%
LE & AB Permits Total	*6,603*	*9,880*	*149.6%*
Commercial	10,171	2,771	27.2%
General Public (meters/unregulated)	9,734	9,754	100.2%
Buses	233	95	40.8%
Taxis	26	644	2515.6%
Govt (no permit)	0	474	n/a
Other Permit	0	874	n/a
Fake Permit	0	996	n/a
Other	48	339	700.4%
Total	26,815	25,827	96.3%

Table 5 - CCC Comparative Occupancy across User Groups (9AM-5PM)

4.1.2 Financial District

The Financial District shows more availability than is standard in Lower Manhattan. 78% of the available curb space is occupied during the during the peak hours. However, this value is somewhat misleading since many curbs are closed for construction and are not available for parking. During the analysis, Arup did its best to remove temporarily closed curbs from the supply, although it is likely that some are still included, artificially lowering the occupancy rate for the sub-area.

LE permits vastly over-utilize their supply. During the peak period, LE permits observed were more than double the number of spaces allocated to them. AB permits only utilize 51% of their space, allowing the LE/AB total occupancy rate to come down to 127%. The general public also has a real capacity issue in the FD, as they have over three times as many parked vehicles as available spaces. Commercial vehicles only utilize 28% of their peak supply, and all "Other" vehicles occupy 184% of theirs.

Table 6 summarizes supply versus demand for the peak timeframe.

User Group	Designated Space-Hours	Utilized Vehicle-Hours	Occupancy
LE Permit	1,054	2,646	250.9%
AB Permit	1,720	884	51.4%
LE & AB Permits Total	*2,775*	*3,530*	*127.2%*
Commercial	8,704	2,414	27.7%
General Public (meters/unregulated)	807	2,453	304.0%
Buses	178	22	2.6%
Taxis	757	497	65.6%
Govt (no permit)	0	414	n/a
Other Permit	0	400	n/a
Fake Permit	0	521	n/a
Other	67	123	184.1%
Total	13,288	10,374	78.1%

Table 6 - FD Comparative Occupancy across User Groups (9AM-5PM)

4.1.3 Greenwich South

Greenwich South also has a lower than average occupancy rate. 80% of available supply for the peak period is occupied. Similar to the Financial District, curbs closed for construction may have an effect on the occupancy rate in this sub-area.

The general public has the highest occupancy rate of any user group in GS. Peak hour general public parking is at 236% occupancy. LE and AB permits occupy 85% of their supply during peak hours, while commercial uses 25%.

Table 7 summarizes supply versus demand for the peak timeframe.

User Group	Designated Space-Hours	Utilized Vehicle-Hours	Occupancy
LE Permit	658	787	119.5%
AB Permit	547	235	43.0%
LE & AB Permits Total	*1,205*	*1,022*	*84.8%*
Commercial	672	166	24.7%
General Public (meters/unregulated)	301	465	235.7%
Buses	72	2	2.8%
Taxis	60	11	18.2%
Govt (no permit)	0	58	n/a
Other Permit	0	75	n/a
Fake Permit	0	51	n/a
Other	0	0	n/a
Total	2,310	1,850	80.1%

Table 7 - GS Comparative Occupancy across User Groups (9AM-5PM)

4.1.4 Battery Park City

Battery Park City has the least amount of parking available out of all sub-areas. 158% of peak period space-hours were observed to be occupied.

LE and AB permits occupy 219% of their designated curb space. Commercial vehicles occupy 46% of theirs, which is the highest commercial occupancy rate in Lower Manhattan.

Again, private vehicles are the worst supply vs. demand offenders. These vehicles are provided with 1,495 metered or unregulated space-hours, but 3,222 vehicles want to park in BPC. This provides a peak hour occupancy of 216%.

Table 8 summarizes supply versus demand for the peak timeframe.

User Group	Designated Space-Hours	Utilized Vehicle-Hours	Occupancy
LE Permit	138	325	234.8%
AB Permit	44	74	169.7%
LE & AB Permits Total	*182*	*399*	*219.2%*
Commercial	590	272	46.1%
General Public (meters/unregulated)	1,495	3,222	215.6%
Buses	165	17	10.3%
Taxis	243	240	98.7%
Govt (no permit)	0	34	n/a
Other Permit	0	104	n/a
Fake Permit	0	49	n/a
Other	78	8	10.3%
Total	2,753	4,345	157.8%

Table 8 - BPC Comparative Occupancy across User Groups (9AM-5PM)

4.1.5 Tribeca

Tribeca possesses an 88% occupancy rate during peak hours.

Peak hour LE permits are the most numerous user group found in TBC and also have the highest occupancy rate. For this group, 3,021 vehicle-hours were observed against 1,075 designated space-hours, which is an occupancy rate of 281%. LE and AB permits together show a peak hour occupancy of 201%. The general public is also in need of additional supply in TBC, as demand is 129% of designated supply.

Table 9 summarizes supply versus demand for the peak timeframe.

User Group	Designated Space-Hours	Utilized Vehicle-Hours	Occupancy
LE Permit	1,075	3,021	281.0%
AB Permit	1,149	1,447	125.9%
LE & AB Permits Total	*2,224*	*4,468*	*200.9%*
Commercial	7,219	1,666	23.1%
General Public (meters/unregulated)	2,557	3,301	129.1%
Buses	40	2	5.0%
Taxis	267	259	96.9%
Govt (no permit)	0	303	n/a
Other Permit	0	326	n/a
Fake Permit	0	384	n/a
Other	0	60	n/a
Total	12,307	10,769	87.5%

Table 9 - TBC Comparative Occupancy across User Groups (9AM-5PM)

4.2 Who is Parked Where

GIS was used to place all parked vehicles against the active STATUS regulations. Every user group that was parked in a different regulation was extracted and categorized. The initial result was a matrix depicting the total number of vehicle-hours spent by each user group in each regulation category.

In order to make the matrix easier to read and understand, the matrix now shows a series of percentages. Each cell shows a percentage of the row's user group total demand that was observed parking in the supply set for the column's user group. As a result, the rows add up to 100%, not the columns. Additionally, the last column and row depict the total percentage of all vehicle types and parking in all regulation types, respectively.

For the Lower Manhattan study area, a large number of vehicles park outside of their designated supply. In reviewing the table, a few facts should be noted. Most importantly, 10% of all vehicle-hours in LM were observed as parking illegally (crosswalks, bus stops, etc.) and another 15% in either "No Standing," or "No Stopping" areas. Ideally, spaces in these regulations would have the least amount of parking; however, due to the relative lack of parking in certain vehicles' respective areas, parking has occurred here as a last resort.

Disregarding transit vehicles, who have a small amount of vehicle-hours, LE permits and commercial vehicles park in these I1 and I2 areas with the most frequency, both at a 27% rate.

Table 10 displays this matrix.

User Group	Authorized	Commercial	Bus	Taxi	Meter	No Parking	No Standing No Stopping	Other	Illegal	Unregulated	% of All Vehicle Types
AB Permits	30%	24%	2%	0%	7%	14%	14%	0%	9%	0%	11%
Fake Permits	26%	18%	3%	0%	5%	24%	17%	0%	8%	0%	4%
Commercial	4%	44%	4%	1%	6%	13%	15%	0%	12%	0%	14%
Government	26%	26%	1%	0%	6%	13%	16%	0%	10%	2%	2%
LE Permits	26%	26%	2%	1%	5%	14%	18%	1%	9%	0%	26%
Other	6%	14%	8%	0%	21%	15%	13%	0%	9%	13%	0%
Private	6%	12%	2%	0%	15%	20%	14%	0%	11%	21%	35%
Other Permits	25%	27%	1%	0%	13%	18%	9%	0%	6%	0%	3%
Transit	3%	10%	27%	0%	8%	5%	22%	0%	27%	0%	0%
Taxi	8%	12%	2%	16%	8%	11%	18%	0%	20%	5%	3%
Incongruous	27%	28%	2%	1%	0%	12%	19%	0%	10%	0%	1%
% of All Reg Types	15%	23%	2%	1%	9%	16%	15%	0%	10%	8%	100%

Table 10 - LM Matrix of Vehicle-Hours by User Group Parked in the Major Regulation Types (9AM-5PM)

4.2.1 Chinatown/Civic Center

The Chinatown/Civic Center sub-area possesses similar patterns to the "who is parking where" phenomenon as all of Lower Manhattan. 28% of all vehicles observed in the area, were parked in No Parking, No Standing, and No Stopping areas. This is followed by 19% in commercial areas 16% in authorized vehicle regulations.

Table 11 displays the matrix of vehicle-hours versus regulation type for CCC. The vehicles observed and the regulations analyzed do not reflect any frozen security zones, the Municipal Garage, or the Brooklyn Bridge ramp.

User Group	Authorized	Commercial	Bus	Taxi	Meter	No Parking	No Standing No Stopping	Other	Illegal	Unregulated	% of All Vehicle Types
AB Permits	32%	17%	3%	0%	12%	14%	12%	0%	10%	0%	12%
Fake Permits	30%	14%	3%	0%	5%	21%	11%	1%	10%	5%	4%
Commercial	3%	43%	7%	0%	9%	13%	12%	0%	14%	0%	11%
Government	35%	18%	1%	0%	12%	2%	20%	0%	11%	1%	2%
LE Permits	29%	24%	2%	0%	5%	11%	20%	1%	9%	0%	27%
Other	7%	14%	7%	0%	24%	17%	9%	0%	8%	14%	1%
Private	5%	9%	2%	0%	18%	19%	8%	0%	9%	30%	37%
Other Permits	21%	30%	2%	0%	19%	14%	8%	0%	6%	0%	3%
Transit	3%	7%	26%	0%	11%	7%	15%	0%	30%	0%	0%
Taxi	8%	5%	1%	0%	13%	14%	13%	0%	19%	27%	2%
Incongruous	20%	38%	5%	0%	1%	8%	11%	0%	18%	0%	1%
% of All Reg Types	16%	19%	3%	0%	12%	15%	13%	1%	10%	12%	100%

Table 11 - CCC Matrix of Vehicle-Hours by User Group Parked in the Major Regulation Types (9AM-5PM)

4.2.2 Financial District

The largest share of parking in the Financial District was observed in commercial regulations, comprising 36% of all vehicle-hours. Within these vehicles, commercial vehicles themselves only made up one-third of that total. All permits combined accounted for 40% of vehicles parked in commercial loading zones. Private vehicles made up roughly 66% of all vehicles parked at meters and unregulated/unknown regulations. However, approximately 29% of all vehicles in FD parked in illegal or unavailable supply, i.e. No Standing-Stopping.

Table 12 displays the matrix of vehicle-hours versus regulation type for FD. The vehicles observed and the regulations analyzed do not include the NYSE Security Zone.

User Group	Authorized	Commercial	Bus	Taxi	Meter	No Parking	No Standing No Stopping	Other	Illegal	Unregulated	% of All Vehicle Types
AB Permits	32%	31%	0%	1%	1%	7%	20%	0%	8%	0%	9%
Fake Permits	22%	25%	0%	0%	4%	11%	34%	0%	5%	0%	6%
Commercial	6%	49%	4%	1%	4%	4%	20%	1%	12%	0%	24%
Government	20%	29%	2%	0%	1%	23%	13%	0%	8%	4%	4%
LE Permits	26%	36%	2%	3%	3%	5%	17%	0%	8%	0%	26%
Other	0%	18%	0%	0%	0%	0%	76%	0%	6%	0%	0%
Private	11%	33%	1%	1%	10%	7%	16%	1%	14%	6%	22%
Other Permits	38%	37%	0%	0%	2%	6%	10%	0%	7%	0%	4%
Transit	0%	23%	37%	0%	0%	0%	17%	0%	23%	0%	0%
Taxi	9%	16%	3%	31%	6%	3%	16%	0%	16%	0%	5%
Incongruous	37%	23%	0%	0%	0%	6%	26%	0%	8%	0%	1%
% of All Reg Types	18%	36%	2%	3%	5%	6%	18%	0%	11%	1%	100%

Table 12 - FD Matrix of Vehicle-Hours by User Group Parked in the Major Regulation Types (9AM-5PM)

4.2.3 Greenwich South

In the Greenwich South sub-area, 41% of all vehicles observed were LE permits. Of these vehicles, just over half parked outside of authorized vehicle regulations, the most of which (38%) parked in illegal supply or No Standing-Stopping regulations.

36% of all vehicles observed were parked in authorized vehicle regulations, however 27% of these vehicles actually were not permitted vehicles. Additionally, 70% of the vehicles parked in commercial regulations were not commercial vehicles.

Table 13 displays the matrix of vehicle-hours versus regulation type for GS.

User Group	Authorized	Commercial	Bus	Taxi	Meter	No Parking	No Standing No Stopping	Other	Illegal	Unregulated	% of All Vehicle Types
AB Permits	35%	19%	7%	0%	6%	13%	12%	0%	8%	0%	14%
Fake Permits	47%	27%	0%	0%	0%	0%	0%	0%	25%	0%	3%
Commercial	16%	48%	1%	0%	3%	4%	21%	0%	8%	0%	9%
Government	33%	5%	0%	0%	12%	21%	17%	0%	0%	12%	3%
LE Permits	45%	7%	0%	0%	5%	7%	23%	0%	12%	0%	41%
Other	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Private	29%	9%	1%	0%	28%	12%	11%	0%	12%	0%	25%
Other Permits	37%	24%	0%	0%	1%	37%	0%	0%	0%	0%	4%
Transit	33%	0%	33%	0%	0%	0%	0%	0%	33%	0%	0%
Taxi	27%	9%	0%	0%	9%	0%	9%	0%	45%	0%	1%
Incongruous	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
% of All Reg Types	36%	14%	2%	0%	11%	10%	17%	0%	11%	0%	100%

Table 13 - GS Matrix of Vehicle-Hours by User Group Parked in the Major Regulation Types (9AM-5PM)

4.2.4 Battery Park City

The vehicle demand in Battery Park City is overwhelmingly private – 74% of all vehicles observed were privately owned. However, due to the limited on-street parking in BPC, barely 20% of these vehicles actually park in spaces that are legal to them. The large majority of the improperly-parked remainder was observed in No Standing-Stopping areas.

BPC also possesses a large taxi population and the supply and demand demonstrate this. Taxis made up 6% of all vehicles, a higher then normal rate for them, and while they comprised 61% of the vehicles parked in taxi regulations, taxis parked legally at those locations only made up 18% of all observed for-hire vehicles

While authorized vehicles make up a small portion of the demand in BPC (13%), they have very few regulations dedicated to them and thus have to park in other areas 98% of the time.

Table 14 displays the matrix of vehicle-hours versus regulation type for BPC.

User Group	Authorized	Commercial	Bus	Taxi	Meter	No Parking	No Standing No Stopping	Other	Illegal	Unregulated	% of All Vehicle Types
AB Permits	0%	12%	1%	0%	15%	0%	54%	0%	11%	7%	2%
Fake Permits	0%	10%	8%	0%	20%	36%	16%	0%	10%	0%	1%
Commercial	1%	6%	11%	1%	4%	8%	44%	0%	21%	4%	6%
Government	0%	9%	0%	0%	18%	12%	44%	0%	15%	3%	1%
LE Permits	3%	16%	8%	0%	5%	8%	34%	0%	27%	0%	8%
Other	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Private	1%	4%	4%	1%	1%	25%	34%	0%	13%	18%	74%
Other Permits	0%	1%	3%	0%	8%	30%	24%	0%	9%	26%	2%
Transit	0%	5%	15%	0%	0%	0%	65%	0%	15%	0%	0%
Taxi	1%	11%	6%	18%	0%	2%	37%	0%	24%	0%	6%
Incongruous	0%	0%	0%	50%	0%	25%	25%	0%	0%	0%	0%
% of All Reg Types	1%	6%	5%	2%	2%	21%	35%	0%	15%	14%	100%

Table 14 - BPC Matrix of Vehicle-Hours by User Group Parked in the Major Regulation Types (9AM-5PM)

4.2.5 Tribeca

LE and AB permits make up 43% of all observed vehicles in Tribeca. Out of the 4,713 vehicle-hours these vehicles demanded, 78% were parked outside of their dedicated areas. The greatest majority of this time was spent in commercial regulations and No Parking.

Commercial vehicles parked in their own regulations at a 45% rate, and private vehicles did the same 31% of the time. Out of all vehicles demanding parking in TBC, 28% were observed in No Parking regulations, the highest of all regulations.

Table 15 displays the matrix of vehicle-hours versus regulation type for TBC.

User Group	Authorized	Commercial	Bus	Taxi	Meter	No Parking	No Standing No Stopping	Other	Illegal	Unregulated	% of All Vehicle Types
AB Permits	26%	34%	0%	0%	2%	18%	12%	0%	8%	0%	14%
Fake Permits	20%	13%	4%	0%	5%	49%	6%	0%	4%	0%	4%
Commercial	4%	45%	0%	0%	4%	28%	8%	0%	11%	0%	15%
Government	21%	40%	1%	0%	0%	12%	13%	0%	12%	0%	3%
LE Permits	17%	26%	1%	0%	6%	30%	12%	0%	8%	0%	29%
Other	0%	0%	43%	0%	0%	0%	0%	0%	57%	0%	0%
Private	6%	15%	0%	1%	21%	29%	8%	0%	11%	10%	29%
Other Permits	23%	11%	0%	0%	16%	36%	8%	0%	6%	0%	3%
Transit	0%	0%	0%	0%	50%	0%	0%	0%	0%	50%	0%
Taxi	6%	14%	0%	16%	8%	23%	14%	0%	19%	0%	3%
Incongruous	26%	21%	0%	0%	0%	30%	23%	0%	0%	0%	1%
% of All Reg Types	13%	26%	1%	1%	10%	28%	10%	0%	9%	3%	100%

Table 15 - TBC Matrix of Vehicle-Hours by User Group Parked in the Major Regulation Types (9AM-5PM)

4.3 AB Permit Demand

Another important aspect in the analysis of authorized permit parking is to compare the volumes of observed permits with the regulated supply of spaces provided for them. This is summarized in the following two sections for AB and LE permits.

The total number of authorized AB vehicles observed in Lower Manhattan and their placement against the total legal parking supply available to them is not overly large. The statistics show that AB vehicle-hours are equal to 78% of their dedicated throughout the course of the study day (82% during the peak hours).

AB vehicles actually are under capacity when comparing designated space-hours to utilized vehicle-hours and could theoretically increase their demand without negatively impacting the parking situation in Lower Manhattan. One problem lies, as will be noted, with various agency parking. There is generally a mismatch between the different agencies as some have too much capacity and others do not have enough. This results in some agencies overflowing into other agencies' parking spaces. While these vehicles are still technically parked in authorized parking regulations, they are removing supply from the intended agency user.

LE permits exacerbate this problem. These vehicles so drastically exceed their allocated supply that they park in the areas designated for AB permits, forcing AB vehicles to park elsewhere. While this may not negatively effect the AB equation, it does usually cause a ripple effect down to other user groups creating a capacity issue for them.

As Section 4.2 shows, AB permits park either illegally or in No Standing/Stopping areas at a 23% rate. Within each sub-area, Maps 14-27 included in Appendix A give an hour-by-hour representation of where these vehicles are parking and their legality.

4.3.1 Chinatown/Civic Center

AB permits occupy 84% of their allocated curb-space during the entire study day in the Chinatown/Civic Center sub-area, increasing slightly to 88% during the peak hours. 10% of AB permits park illegally at bus stops, fire hydrants, crosswalks, and driveways and double-park. Additionally, 29% of these vehicles park in commercial and metered regulations both of which are legal for permits, but are specifically intended for others.

4.3.2 Financial District

In the Financial District, peak hour AB demand is only 51% of AB supply. 8% of AB permits parks illegally and 32% park improperly in supply intended for commercial vehicles or the general public (meters).

4.3.3 Greenwich South

The Greenwich South sub-area sees a much smaller occupancy rate for AB permits. These rates are 41% for the all-day period and 43% for the peak hour timeframe. 8% of AB permits are parked illegally and one-quarter are parked improperly in commercial zones or at meters.

4.3.4 Battery Park City

Due to Battery Park City's lack of any significant authorized parking supply and despite relatively low volumes, the occupancy rates for AB permits are excessively high. These vehicles park in 213% of their supply in BPC, decreasing slightly in the peak period to 170% of their supply. 11% of AB vehicles park illegally and only 27% park in commercially regulated or metered spaces.

4.3.5 Tribeca

AB permits park in 116% of their dedicated supply in Tribeca during the 7AM-9PM timeframe. This figure jumps slightly during the peak period to 126%. Additionally 8% of AB permits in TBC park illegally and a rather large amount (36%) park in commercial and metered regulations.

4.4 LE Permit Demand

Over the course of a typical peak period (9A-5P) over 3,300 vehicles in Lower Manhattan display an LE permit, resulting in nearly 14,000 vehicle hours. This is equal to nearly two-thirds of all the vehicle-hours by legitimate permit types and almost one-quarter of the total observed vehicle-hours in LM.

These vehicles were observed parking illegally (i.e. I1) 10% of the time for a total of 1,300+ vehicle-hours.

Encroachment on commercial loading zones and parking meters by these vehicles:

- removes 13% of the commercial vehicle supply (3,600+ vehicle-hours)
- removes an additional 8% from the general public's metered supply (652 vehicle-hours)

The total demand for LE parking is 13,494 vehicle-hours, which exceeds the total authorized parking supply for AB & LE permits (104%). This leaves no available curb space for any AB permits, causing these vehicles to spill into areas that are illegal or not meant for them.

4.4.1 Chinatown/Civic Center

Peak demand by LE permitted vehicles in the Chinatown/Civic Center total 1,697 vehicles resulting in 6,715 vehicle-hours. Just as with Lower Manhattan overall, this figure represents approximately 66% of all legitimate permits and 25% of all observed vehicles. Additionally, LE permits in CCC park illegally 10% of the time and they remove 16% of the commercial supply and 7% of the metered supply.

4.4.2 Financial District

In the Financial District, 603 LE permitted vehicles were observed parking for a grand total of 2,646 vehicle-hours. This represents 66% of all real permits and 26% of all vehicles. 9% of these vehicle-hours are spent parked illegally, while 13% of commercial space-hours and 9% of metered space-hours are removed from the supply.

4.4.3 Greenwich South

209 LE permits were observed in Greenwich South during the 9AM-5PM timeframe. These vehicles occupied a total of 787 vehicle-hours, the most of any user group in the GS sub-area. This represents a 70% share of all permit types and a 41% portion of all observed vehicles. LE permits parked illegally 13% of the time and removed 10% of the commercial space-hour supply and 14% of the metered supply.

4.4.4 Battery Park City

BPC is the only sub-area where LE permits take a significant backseat to another user group, that being private vehicles in this case. A total of 133 LE permitted vehicles were observed, occupying a total of 325 vehicle-hours. This still represented almost 2/3 of all permits, but only 8% of all vehicles.

Illegal parking by LE permits is a real problem in BPC. While the total illegal vehicle-hours is 94 and is low compared to other sub-areas, it still results in an excessively high rate of almost 30%. This means that nearly 1 in 3 LE permits observed in the area was parked illegally. LE permits removed 9% of the commercial supply and 5% of the metered supply.

4.4.5 Tribeca

The rate of observation for LE permits in Tribeca is back to Lower Manhattan levels. 673 total vehicles were observed resulting in a total of 3,021 vehicles-hours. As a result, LE permits again account for roughly two-thirds of all permit types and one-quarter of all observed vehicles. 9% of LE vehicles parked illegally, and roughly 13% of both the commercial and metered space-hours were removed from the available supply.

4.5 Fake Permits & Transfers

Fake permits are a significant occurrence – and thus represent a formidable problem – in Lower Manhattan. As a result, efforts were made during data collection to identify permits as being fake or illegitimate in some way and to categorize them into the groups previously discussed.

As a result, 513 total peak period vehicles were identified as having a fake permit in one way or another, resulting in a total of 2,123 vehicle-hours. This accounts for 4% of the total vehicle-hours observed in Lower Manhattan, and 9% of all permit vehicle-hours in the study area, though actual counterfeits account for only about 1 in 1,300 vehicles. These figures for each of the sub-areas are as follows:

- Chinatown/Civic Center – 251 total vehicles equaling 1,022 vehicle-hours were noted possessing illegitimate permits. This represents 8% of permit vehicles and 4% of all vehicles in the sub-area.
- Financial District – 144 vehicles totaling 581 vehicle-hours. This accounts for 12% of all permits and 5% of all vehicles.
- Greenwich South – 10 total vehicles equaling 51 vehicle-hours. This is a 4% share of total permits and 3% share of all vehicles.
- Battery Park City – 15 vehicles totaling 51 vehicle-hours. This represents 9% of permits and 1% of all vehicles.
- Tribeca – 93 total vehicles resulting in 418 vehicle-hours. This accounts for 7% of all permits and 4% of total vehicles.

The occurrence of permit transfers is also of interest. In order to confirm some of the data that was collected, the team requested and received a list of every license plate that was registered with the APU as having an officially issued agency business permit. This information was then compared against the collected data for agency name matches.

In doing this, the team was able to match only 43% of the license plates that were observed as having AB permits to those in the APU database. While it is possible that some of these could be counterfeit permits (originals copied and laminated) that were not caught in the data collection, it is believed that the majority of these are vehicle transfers. This means that the person with the officially registered vehicle either changes vehicles or loans the permit to someone else.

5 Parking Supply

5.1 Supply by Regulation Type

The first category of curb regulations is that which prohibits parking. These are "No Parking," "No Standing," and "No Stopping." These are followed by regulations that allow a certain user group, such as Authorized Vehicles, Commercial Vehicles, Buses, and Other. The Other category is a combination of small amounts of regulations that govern small user groups, such as taxis, press, and diplomats.

As previously stated, NYCDOT APU allows most permits and trucks/vans with valid government plates to park in all "No Parking" and "No Standing Except Trucks" regulations.

Finally, there is metered parking and unregulated parking. These are the only sources of parking for the general public. Since there are no totally unregulated curbs, "unregulated" supply refers to ultimately all of the curbs in Lower Manhattan when a time-specific regulation is not in effect.

In order to determine the amount of space-hours by regulation, the total linear feet for each regulation extent have been extracted from the STATUS system. This was then multiplied by the total number of hours in which the regulation is in effect to get a value for total foot-hours. All like regulations have been grouped together and the values for total feet and total foot-hours were summed. Both values are then divided by an average space size of 20' to give values for the total number of spaces and their associated space-hours.

The available parking supply in Lower Manhattan by each of the above regulation categories for the 9AM-5PM timeframe is summarized below. Note that the "No Standing" and "No Stopping" regulations are highlighted to signify that they are unavailable to park in for all users, and while "No Parking" is legal for permitted vehicles, it is generally not considered part of the supply available**.**

During the peak hours, out of all "parkable" supply, the public allotment is only 26%, while the authorized/commercial supply increases to 48%. Table 16 shows the regulation supply breakdown for these peak hours.

Total Supply	Total Spaces	Space-Hours
AB Permits	883	7,052
LE Permits	744	5,937
Buses	112	688
Commercial Vehicles	3,848	27,356
Meters	1,105	7,926
No Parking	3,800	20,718
No Standing	6,007	42,167
No Stopping	244	1,949
Other	24	193
Taxis	174	1,354
Unregulated	871	6,968
Total Signed Curbspace	16,940	115,339
Total w/o No Standing & No Stopping	10,690	71,223
Actual Curbspace	15,288	122,307

Table 16 – LM Parking Supply by Regulation Type (9AM-5PM)

The proportion of each regulation for the 9AM-5PM timeframe is displayed in Figure 8. Note that this chart includes the “non-parkable” supply such as “No Standing” and “No Stopping.”

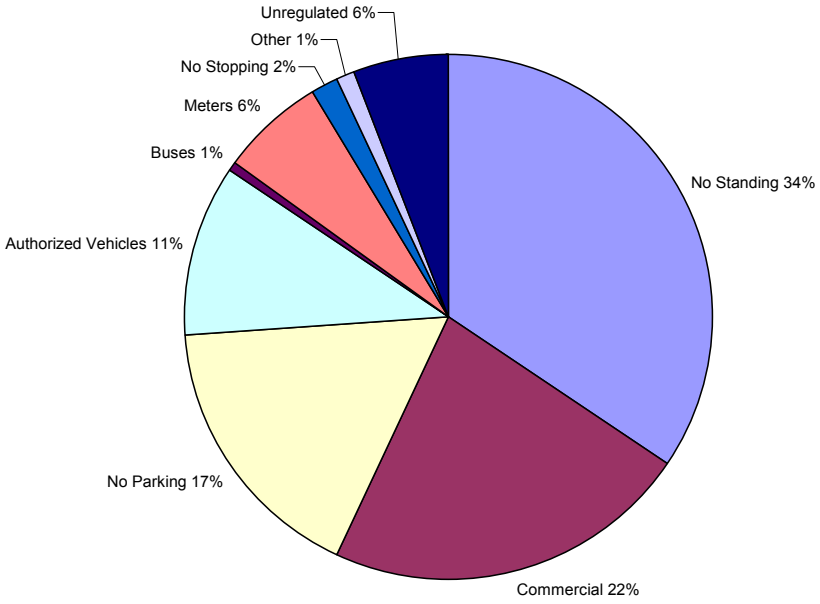

Figure 8 - LM Relative Parking Supply by Regulation Type (9AM-5PM)

5.1.1 Chinatown/Civic Center

Chinatown/Civic Center is the largest of the five sub-areas, and thus has the largest share of spaces. Nearly half of all available space-hours (for all users) can be found here. Due to the primarily residential land uses in the eastern portion of CCC, almost two-thirds of all peak hour Lower Manhattan on-street public space-hours (meters and unregulated) are in this sub-area.

Table 17 shows the supply by regulation breakdown peak period (9AM-5PM), while Figure 9 shows the relative supply for the same timeframe.

Total Supply	Total Spaces	Space-Hours
AB Permits	450	3,592
LE Permits	376	3,011
Buses	31	233
Commercial Vehicles	1,503	10,171
Meters	654	4,774
No Parking	1,804	8,447
No Standing	1,814	12,352
No Stopping	32	258
Other	6	48
Taxis	3	26
Unregulated	620	4,960
Total Signed Curbspace	6,673	42,912
Total w/o No Standing & No Stopping	4,827	30,302
Actual Curbspace	5,984	47,872

Table 17 – CCC Parking Supply by Regulation Type (9AM-5PM)

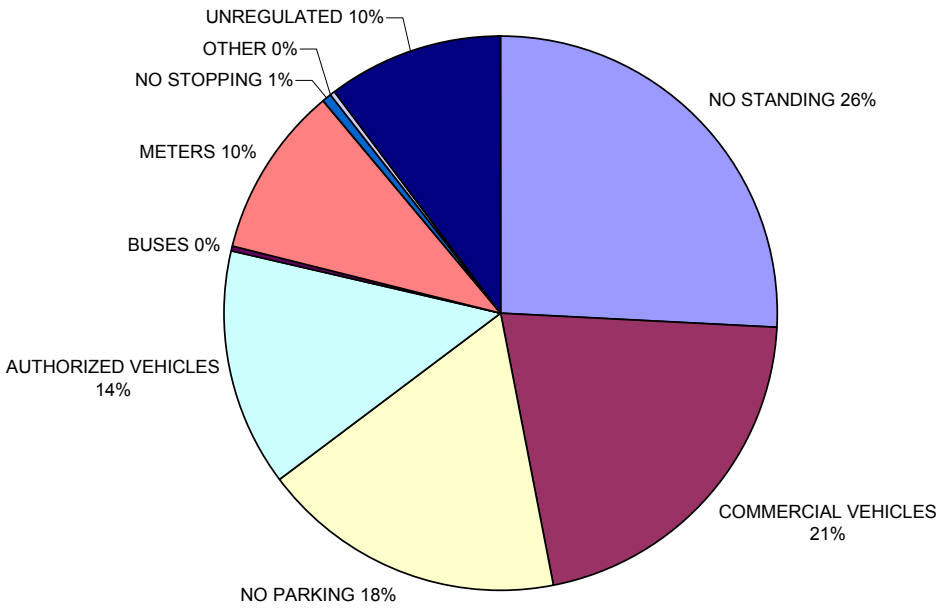

Figure 9 – CCC Relative Parking Supply by Regulation Type (9AM-5PM)

5.1.2 Financial District

The Financial District sub-area has the most parking after CCC, with about 20% of the total supply. During the peak hours, the available supply within FD is dominated by commercial and authorized vehicle parking. This accounts for over three-quarters of the 9AM-5PM supply, while barely 5% is available to the general public.

Table 18 shows the supply by regulation breakdown peak period (9AM-5PM), while Figure 10 shows the relative supply for the same timeframe.

Total Supply	Total Spaces	Space-Hours
AB Permits	215	1,720
LE Permits	132	1,054
Buses	114	834
Commercial Vehicles	1,197	8,704
Meters	138	807
No Parking	302	1,500
No Standing	2,070	15,008
No Stopping	131	1,050
Other	8	67
Taxis	99	757
Unregulated	0	0
Total Signed Curbspace	4,325	30,845
Total w/o No Standing & No Stopping	2,123	14,787
Actual Curbspace	3,856	30,845

Table 18 – FD Parking Supply by Regulation Type (9AM-5PM)

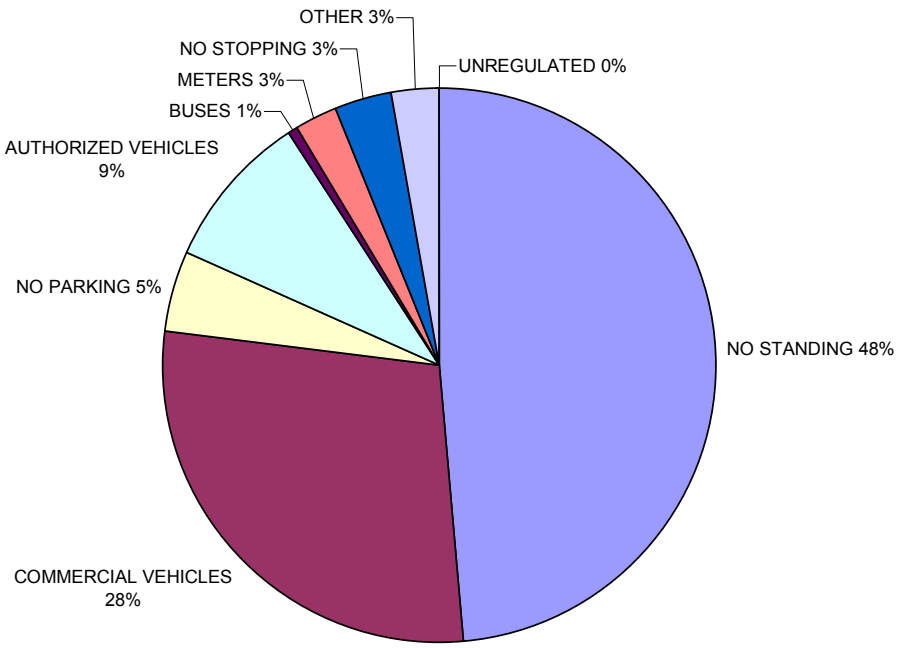

Figure 10 – FD Relative Parking Supply by Regulation Type (9AM-5PM)

5.1.3 Greenwich South

Greenwich South is the smallest of the study areas, and thus has the least amount of parking. There is little shift in proportions between the entire study day and the peak hour. 26% of the supply that is available to park in goes to authorized vehicles, while the public only receives a 6% share.

Table 19 shows the supply by regulation breakdown for the peak period (9AM-5PM), while Figure 11 shows the relative supply for the same timeframe.

Total Supply	Total Spaces	Space-Hours
AB Permits	68	547
LE Permits	82	658
Buses	10	72
Commercial Vehicles	95	672
Meters	38	301
No Parking	62	495
No Standing	241	1,882
No Stopping	0	0
Other	0	0
Taxis	8	60
Unregulated	0	0
Total Signed Curbspace	604	4,688
Total w/o No Standing & No Stopping	363	2,805
Actual Curbspace	586	4,688

Table 19 – GS Parking Supply by Regulation Type (9AM-5PM)

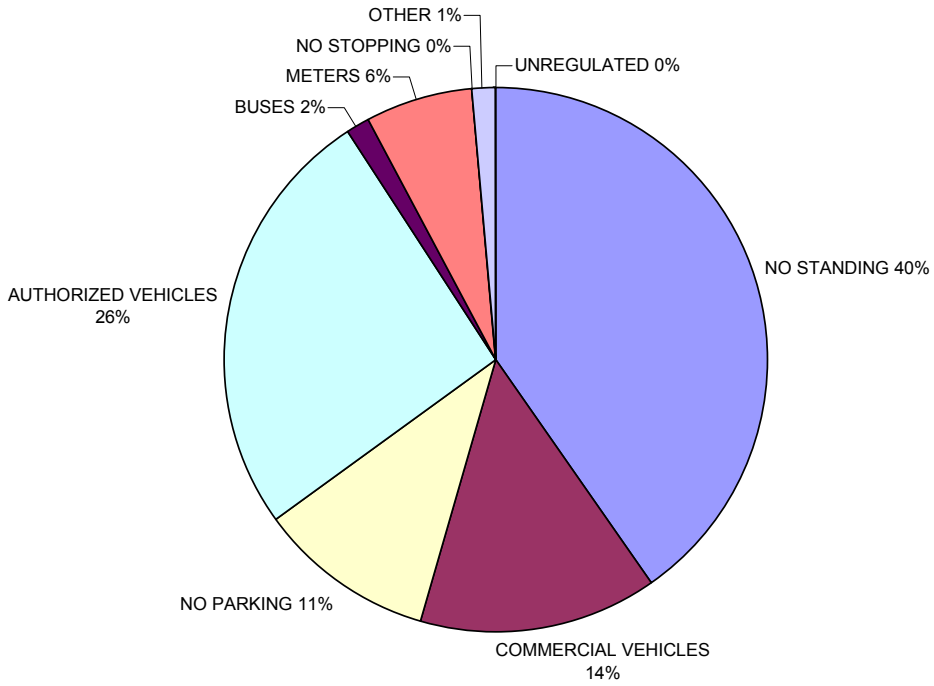

Figure 11 – GS Relative Parking Supply by Regulation Type (9AM-5PM)

5.1.4 Battery Park City

The parking supply in Battery Park City actually favors no one. No Parking-Standing-Stopping areas account for 84% of the signed curbspace, making it nearly impossible for anyone other than permits to park. The problem with this is that permits are not heavily observed in this area, and thus the occupancy rate for all other vehicle types is off the charts. The largest non-permit recipient of parking in BPC is private vehicles which have 15% of the dedicated regulations.

Table 20 shows the supply by regulation breakdown for the peak period (9AM-5PM), while Figure 12 shows the relative supply for the same timeframe.

Total Supply	Total Spaces	Space-Hours
AB Permits	5	44
LE Permits	17	138
Buses	21	165
Commercial Vehicles	74	590
Meters	58	348
No Parking	571	2,068
No Standing	785	5,935
No Stopping	44	351
Other	10	78
Taxis	30	243
Unregulated	143	1,147
Total Signed Curbspace	1,616	9,960
Total w/o No Standing & No Stopping	787	3,674
Actual Curbspace	1,388	11,107

Table 20 – BPC Parking Supply by Regulation Type (9AM-5PM)

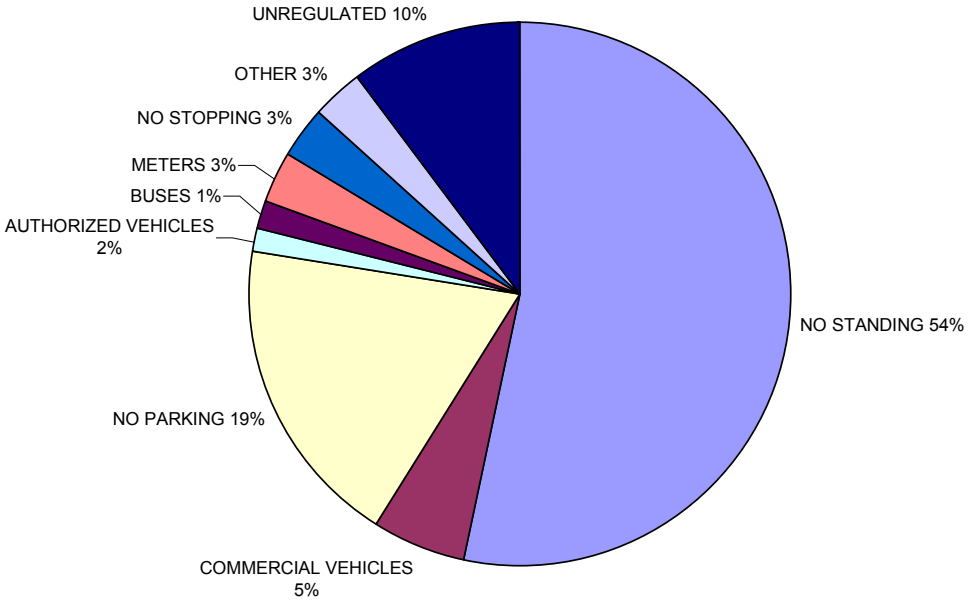

Figure 12 – BPC Relative Parking Supply by Regulation Type (9AM-5PM)

5.1.5 Tribeca

The daytime regulations in Tribeca allow for commercial parking while evening regulations emphasize residential needs. Peak hour commercial supply is at 327%, making it the dominant regulation. Supply available to the public sits at 18% over the course of the day, but the unregulated curbs are nearly eliminated during the peak hours, leaving mostly metered parking for a 9% peak hour share. Additionally, authorized parking regulations comprise 8% of the available supply, not including "No Parking" regulations.

Table 21 shows the supply by regulation breakdown for the peak period (9AM-5PM), while Figure 13 shows the relative supply for the same timeframe.

Total Supply	Total Spaces	Space-Hours
AB Permits	144	1,149
LE Permits	136	1,075
Buses	46	264
Commercial Vehicles	980	7,219
Meters	218	1,696
No Parking	1,061	8,208
No Standing	1,097	6,989
No Stopping	36	291
Other	0	0
Taxis	33	267
Unregulated	108	861
Total Signed Curbspace	3,722	26,934
Total w/o No Standing & No Stopping	2,589	19,654
Actual Curbspace	3,474	27,795

Table 21 – TBC Parking Supply by Regulation Type (9AM-5PM)

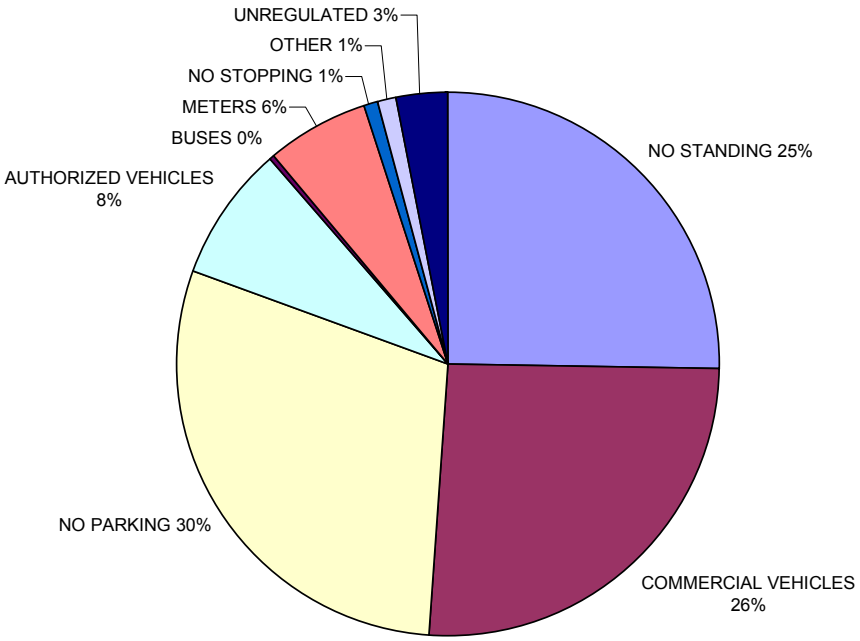

Figure 13 – TBC Relative Parking Supply by Regulation Type (9AM-5PM)

5.2 Total Supply by User Group

In order to understand where one vehicle type can park versus another, the regulations need to be turned into numbers of spaces and space-hours that are available based on parking rules. This is accomplished by taking the supply by regulation type found in Section 5.1 and parsing them out to the respective user groups, LE Permits, AB Permits, Commercial vehicles, and the General Public, using the permissions found in Section 3.

The resultant available parking supply in Lower Manhattan for each of the user groups is depicted below in Table 22 for the peak (9AM-5PM) timeframe.

Please note that a total for this table would not be appropriate in this case. The different user groups have separate designated spaces, but they draw from the same supply of permitted spaces. As a result, there is overlap in the permitted column, and any total that could be provided would be artificially high and thus not reflective of the actual condition.

As the table shows, when combining the designated and permitted parking, permitted vehicles have more than five times the supply available to them then the general public does. During the peak period, there are 78,191 “parkable” (No Parking regulations included here) space-hours available in Lower Manhattan. On average, LE and AB permits are legally permitted to park in 92% of that supply, while commercial vehicles have access to 81%. The general public, on the other hand, can only park at metered or unregulated curbs, which make up only 19% of the supply between 9AM-5PM.

	Spaces			Space-Hours		
User Group	**Designated**	**Permitted**	**Total**	**Designated**	**Permitted**	**Total**
LE Permits	744	9,934	10,578	5,937	65,202	71,139
AB Permits	883	9,934	10,817	7,052	65,202	72,254
Commercial	3,848	5,777	9,625	27,356	35,612	62,968
General Public	0	1,976	1,976	0	14,894	14,894

Table 22 – LM Parking Supply by User Group (9AM-5PM)

5.2.1 Chinatown/Civic Center

The theme in Chinatown/Civic Center is similar to that of Lower Manhattan as a whole when it comes to space-hours available to the principal user groups. LE and AB permits, again on average, have access to 91% of the supply in CCC, commercial to 80%, and the public to 28%. To reiterate, the share that is available to the general public is higher in CCC than in LM as a whole or any other sub-area. The resulting available parking supply in CCC for each of the user groups is depicted below in Table 23 for the peak period.

	Spaces			Space-Hours		
User Group	**Designated**	**Permitted**	**Total**	**Designated**	**Permitted**	**Total**
LE Permits	376	4,621	4,997	3,011	28,659	31,670
AB Permits	450	4,621	5,071	3,592	28,659	32,251
Commercial	1,503	3,078	4,580	10,171	18,181	28,352
General Public	0	1,274	1,274	0	9,734	9,734

Table 23 – CCC Parking Supply by User Group (9AM-5PM)

5.2.2 Financial District

The peak hour parking picture for private vehicles is bleaker in the Financial District, then LM or CCC. During peak hours, LE and AB vehicles are permitted at roughly 91% of the supply, commercial 75%, and the general public at only 6%. The resulting available parking supply in FD for each of the user groups is depicted below in Table 24 for the peak period.

	Spaces			Space-Hours		
User Group	**Designated**	**Permitted**	**Total**	**Designated**	**Permitted**	**Total**
LE Permits	132	1,776	1,908	1,054	12,013	13,067
AB Permits	215	1,776	1,991	1,720	12,013	13,733
Commercial	1,197	440	1,637	8,704	2,307	11,011
General Public	0	138	138	0	807	807

Table 24 – FD Parking Supply by User Group (9AM-5PM)

5.2.3 Greenwich South

The share of available parking supply in Greenwich South is smaller for all user groups than the other sub-areas. LE and AB permits are allowed to park in about 79% of the supply, commercial in 52%, and the general public in 11%. The resulting available parking supply in GS for each of the user groups is depicted below in Table 25 for the peak period.

User Group	Spaces			Space-Hours		
	Designated	Permitted	Total	Designated	Permitted	Total
LE Permits	82	213	295	658	1,600	2,259
AB Permits	68	213	281	547	1,600	2,147
Commercial	95	100	195	672	796	1,468
General Public	0	38	38	0	301	301

Table 25 – GS Parking Supply by User Group (9AM-5PM)

5.2.4 Battery Park City

Battery Park City does not have much designated supply for authorized vehicles; however, LE and AB permits have access to much more supply here, including a large "No Parking" contingent. As a result, 98% of the supply is available to these permitted. Additionally, commercial vehicles have access to 82% of the curbs, and private vehicles have a 31% allotment, a hefty share for them based on other sub-areas. The resulting available parking supply in BPC for each of the user groups is depicted below in Table 26 for the peak period.

User Group	Spaces			Space-Hours		
	Designated	Permitted	Total	Designated	Permitted	Total
LE Permits	17	908	925	138	4,639	4,777
AB Permits	5	908	913	44	4,639	4,682
Commercial	74	772	846	590	3,563	4,153
General Public	0	201	201	0	1,495	1,495

Table 26 – BPC Parking Supply by User Group (9AM-5PM)

5.2.5 Tribeca

Finally, Tribeca shows quite high shares available for authorized and commercial vehicles. LE and AB permits are permitted at nearly 95% of the supply in Tribeca, while commercial vehicles have an equally large share of 88%. The general public, conversely, has only 13% of the space-hours available to them from 9AM-5PM. The resulting available parking supply in TBC for each of the user groups is depicted below in Table 27 for the peak period.

	Spaces			Space-Hours		
User Group	**Designated**	**Permitted**	**Total**	**Designated**	**Permitted**	**Total**
LE Permits	136	2,417	2,553	1,075	18,291	19,366
AB Permits	144	2,417	2,561	1,149	18,291	19,440
Commercial	980	1,387	2,366	7,219	10,765	17,984
General Public	0	326	326	0	2,557	2,557

Table 27 – TBC Parking Supply by User Group (9AM-5PM)

5.3 Hourly Available Supply by User Group

The previous two sections have been scrutinized even further in order to show the supply that is available to each user group on an hour-by-hour basis. The existing regulations were parsed out into hourly spreadsheets so that only regulations that were active for a particular hour were chosen for analysis. Using the rules for who can park where, that have been touched on already in this report, all of the regulations were given to a certain group and then divided into spaces.

In Lower Manhattan, the hourly supply between 8AM-6PM is rather consistent. Total supply, during this time, hovers around 7,000 spaces, with LE permits and AB permits each getting just under 1,000 spaces each and commercial vehicles receiving the most supply with about 3,000 spaces. The general public supply is really what varies during this time, shifting based on regulations changing, from under 1,000 to close to 2,000.

However, between 6-9pm, the spaces available to private vehicles rise dramatically as regulations begin to expire for the day. For each of the last two hours of the day, nearly 90% of the 9,500 available spaces in the study area are available to the general public.

Figure 14 displays the hourly supply available to each user group for LM.

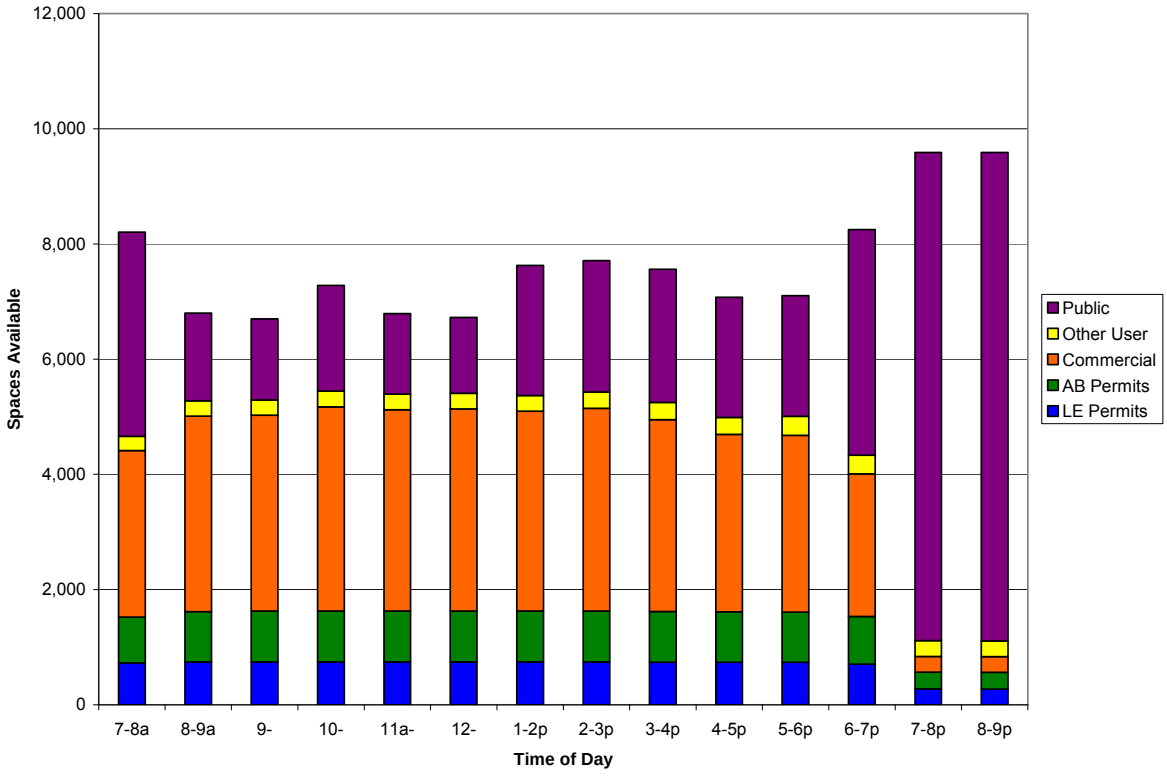

Figure 14 - LM Hourly Available Parking Supply by User Group

5.3.1 Chinatown/Civic Center

The histogram for Chinatown/Civic Center is similar to that of Lower Manhattan, only at half the scale. The supply for all user groups other than the general public varies very little over the course of the day until 6pm. The public supply varies widely over the course of the day, with a noticeable drop at midday. The final two hours of the day give a 90% share of the supply to the general public, which contrasts with the average hourly general public share for the remainder of the day of 38%. Between 7-8am and 6-7pm, LE and AB permits receive 24% of the dedicated supply on average, while commercial vehicles receive an average of 37% for the same timeframe. Figure 15 displays the hourly supply available to each user group for CCC.

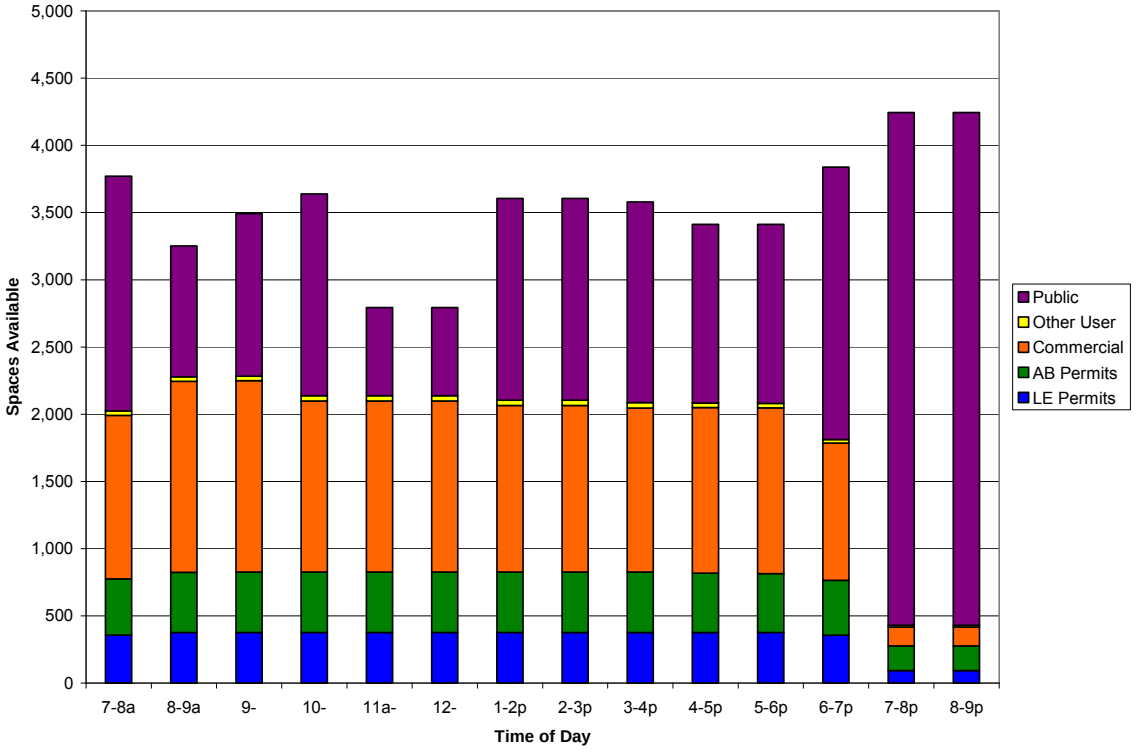

Figure 15 - CCC Hourly Available Parking Supply by User Group

5.3.2 Financial District

The Financial District supply is relatively static until the evening hours. There is very little fluctuation as the total supply rests in the 1,500 neighborhood until 7pm. The trends remain the same, though, as commercial vehicles receive the most average supply over the course of the first 12 hours (62%), while AB and LE permit user groups receive 21% of the same supply. Private vehicles receive 83% of the supply during the final two hours of the day. Figure 16 displays the hourly supply available to each user group for FD.

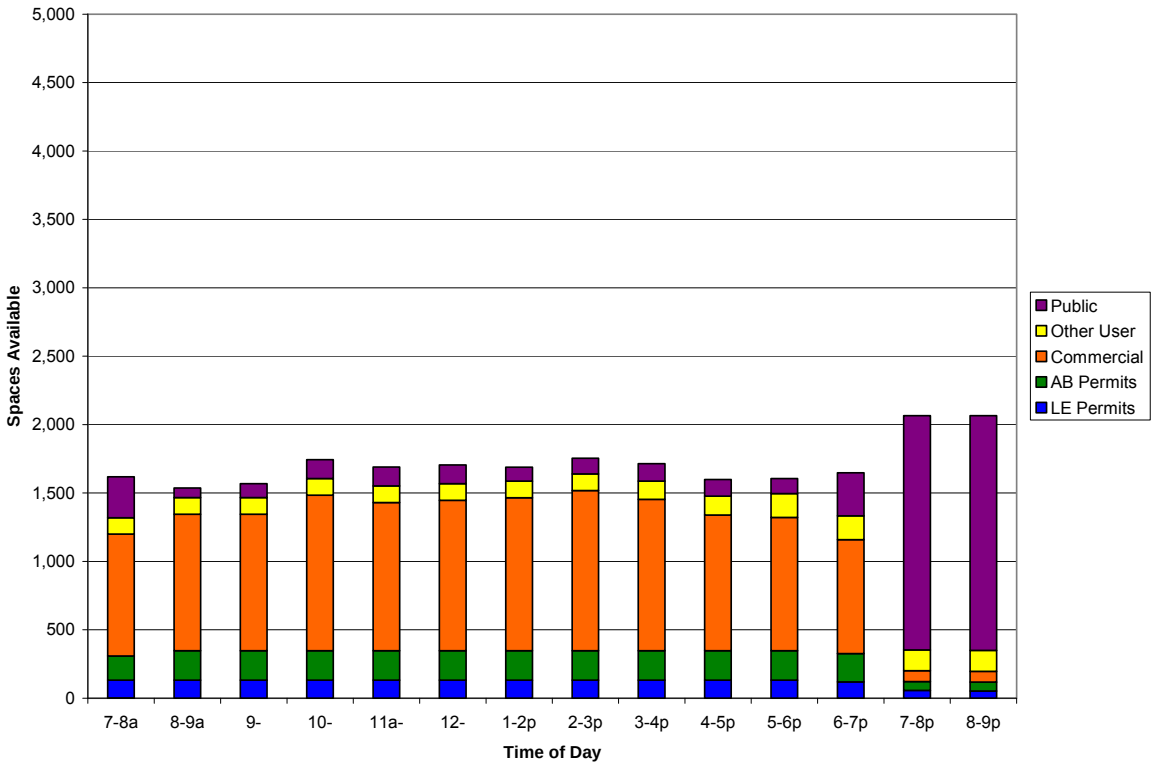

Figure 16 - FD Hourly Available Parking Supply by User Group

5.3.3 Greenwich South

Greenwich South has a maximum of only 300 spaces available per hour, and an average of 292 spaces over the course of the entire day. GS shows very little fluctuation in the amount of supply available, as there is only a 2% difference between the supply at the beginning and end of the day and only a 1% difference between the peak hours (9am-5pm) and the off-peak hours (7-9pm).

Commercial supply comprises 26% of the 7am-7pm time period, while LE and AB permits receive 52% of the 7am-7pm supply in GS. As usual, general public supply jumps from 17% in that timeframe to 66% in the final two hours of the study day. Figure 17 displays the hourly supply available to each user group for GS.

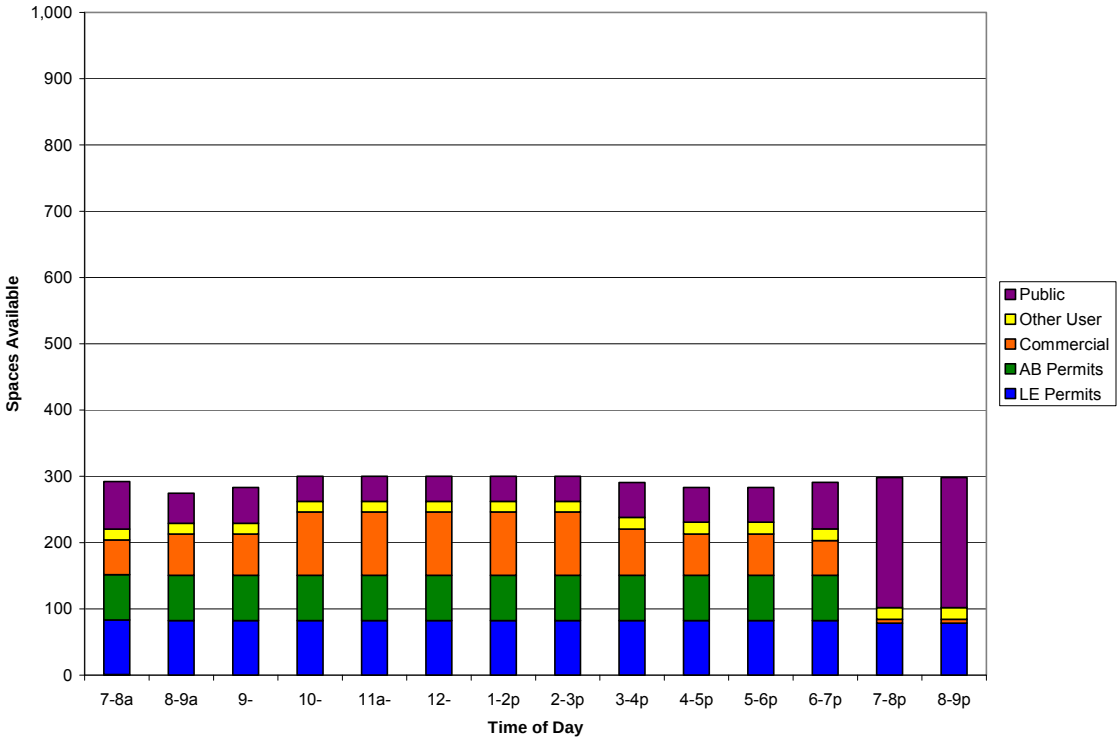

Figure 17 - GS Hourly Available Parking Supply by User Group

5.3.4 Battery Park City

Available supply is also small in Battery Park City compared to other sub-areas, with less than 500 total spaces being available in any one hour before 7pm. With the exception of an interesting two-hour gap in the morning, the general public receives actually the most dedicated supply in BPC, with a 64% share over the course of the day. It is important, that BPC has a large share of "No Parking" regulations, which gives nothing to the public, but increases authorized and commercial permitted supply considerably. 19% of the dedicated supply is reserved for commercial vehicles, while only 6% of it is reserved for LE and AB vehicles. Figure 18 displays the hourly supply available to each user group for BPC.

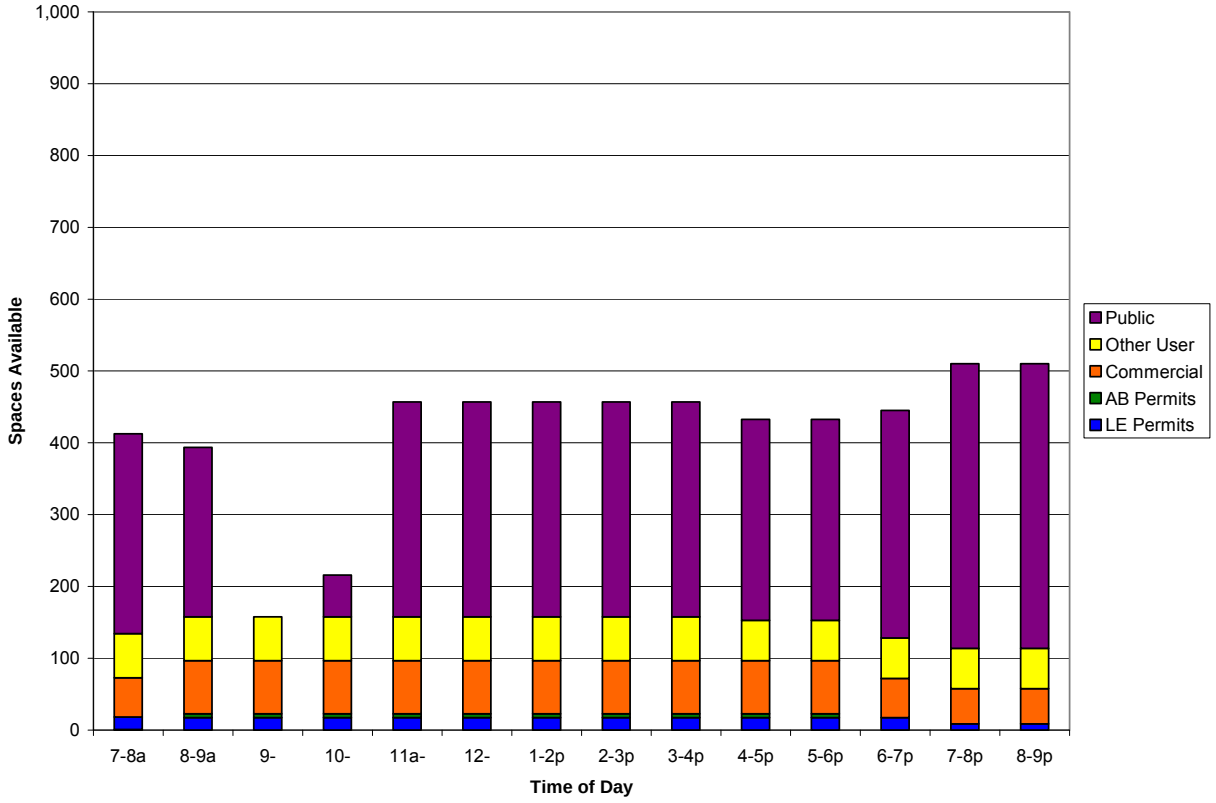

Figure 18 - BPC Hourly Available Parking Supply by User Group

5.3.5 Tribeca

The Tribeca hourly supply pattern is nearly identical to that of Lower Manhattan, although the total supply is about 25% of LM's. LE and AB permits in TBC are given a consistent 17-20% of the supply during 8am-6pm, while commercial vehicles are given the bulk of the supply during the majority of the day, 53% before 7pm. However, nearly every regulation is eliminated after 7pm, as 95% of the curbspace becomes unregulated and thus available to the general public. Figure 19 displays the hourly supply available to each user group for TBC.

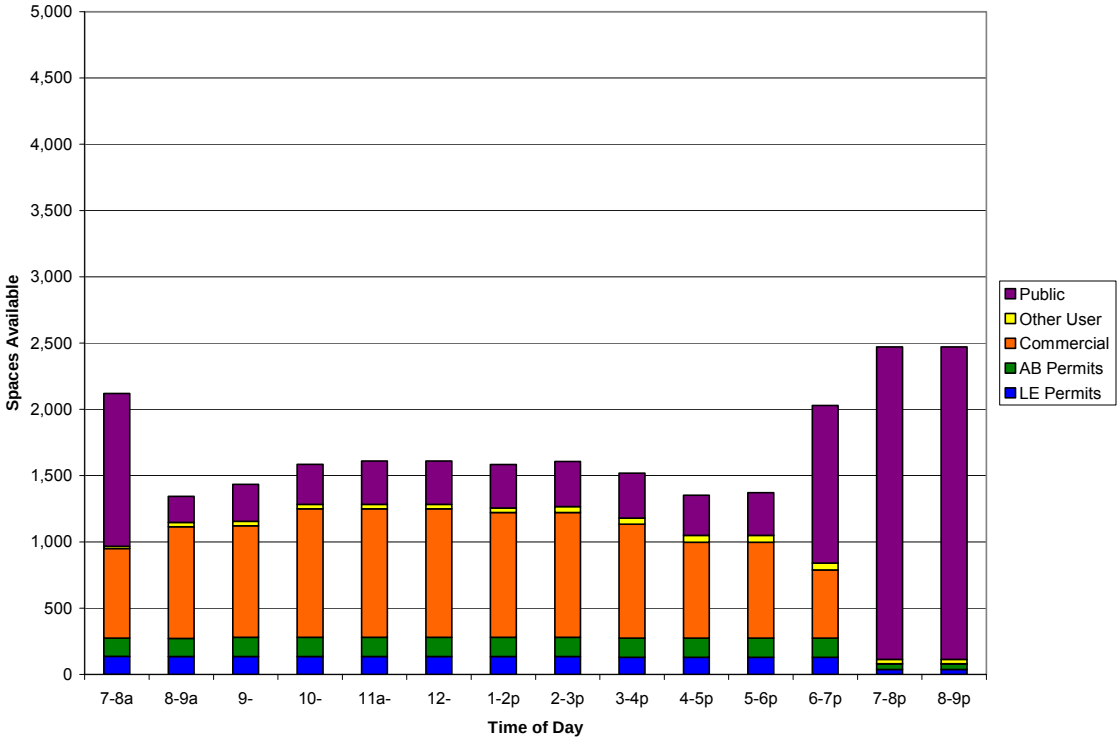

Figure 19 - TBC Hourly Available Parking Supply by User Group

5.4 Parking Legality

Appendix A contains parking regulation maps of the curbs for Lower Manhattan and the five sub-areas. There are specific maps for each of the four main user groups. The STATUS information is available for every hour, but due to minor changes hour by hour in the regulations, the following timeframes are displayed to give a snapshot of a typical weekday:

- 9-10am
- 1-2pm
- 6-7pm

The block faces in these maps have been encoded by using the regulation extents developed by the STATUS sign system. Because there are almost 20 different types of regulations, NYCDOT opted to reduce the display to four different levels of illegality and legality based on user type. The following categories were developed:

- Illegal 1 (I1) – crosswalks, fire hydrants, bus stops and driveways (where data is available). Parking in these areas is always illegal for all user groups because it creates potentially hazardous conditions for pedestrians, cyclists, and other vehicles. Double-parking is also included in this group.
- Illegal 2 (I2) – the space is either needed to facilitate traffic movement or belongs to a different user group which has been established as preferential by the regulation in force and the laws in place.
- Legal 1 (L1) – designated parking specifically for the user group (or unregulated, for the general public).
- Legal 2 (L2) – legal authorized parking at curbs designated for a different user group, or none at all. Parking in these areas removes dedicated supply from others.

These maps are different for each of the four user groups. Based upon their user group, vehicles were placed into one of these categories depending upon where they were parked. All curbs, where STATUS information exists, was given one of the four above designations. Please refer to the above definitions for clarity when using the maps.

Note that fire hydrants and bus stops are included and they are displayed as I1 to all user groups. However, most STATUS regulations only go to the building line, meaning that the regulation extents do not cover crosswalks. As a result, while they are not shown on the map, all crosswalks are still considered I1 to all user groups. No data is available on driveway locations, although any vehicle parked at a driveway was noted as doing such during the data collection.

6 Parking Demand

6.1 Background

Lower Manhattan required eleven two-day sets of observations to be undertaken in order to complete the study. These eleven main sets took place on the following dates:

- September 19-20
- September 20-21
- September 26-27
- September 28-29
- October 3-4
- October 5-6
- October 10-11
- October 11-12
- October 18-19

In total, the survey of the Lower Manhattan study area comprised 126 routes of data collection covering over 1,300 blockfaces. A total of 55,664 parked vehicles were observed over the two-day data collection period, of which 38,499 were unique vehicles, seen only once during the study period. A team of 31 surveyors was needed to collect data for all of the study area. The five sub-areas were collected in the following order:

1. Chinatown/Civic Center
2. Financial District
3. Greenwich South
4. Battery Park City
5. Tribeca

In order to clarify the data and report on a consistent set, all of the Day 1 data was pulled out and analyzed separately for this report. Day 2 data is available for additional fact-finding and was used to report on overnight and repeat parking. Please refer to the map in Appendix A for a visual display of which blocks were counted on which date. As a result these analyses include the data on nearly 27,000 vehicles that were observed in Lower Manhattan on Day 1 of the surveys, roughly 22,000 of which were unique.

6.2 Parking by User Group

To show general demand, the vehicle and permit types that were noted in the field (See Tables 1 and 2) have been merged into broader categories to note general user groups. These groups include vehicles that are either private, law enforcement permitted, agency permitted, other permitted, counterfeit permitted, commercial, for-hire (taxi/black car), non-permit government, transit, other, or incongruous.

All vehicle types (car, van, or truck) that fell into one of the above categories were grouped together. Vehicles containing permits were grouped together based on their permit type. Incongruous vehicles are defined as vehicles that cannot be defined under these classifications. This includes anomalies in the data such as a commercial truck possessing a government permit.

For Lower Manhattan in general, private vehicles were the most observed vehicle type with a 36% share during the peak period. LE permits constituted roughly one-quarter of all vehicles, and AB permits and commercial vehicles made up the next most substantial observations. All permitted vehicles as a group made up 43% of the observations.

The following exhibits represent the distribution of total vehicle hours based on these groupings for Lower Manhattan. The table displays the total number of vehicles and their respective vehicle-hours for each category, while the figure shows the relative share amongst the key users.

Table 28 and Figure 20 depict the peak timeframe (9AM-5PM) for Lower Manhattan.

Vehicle/Permit Type	*Total Vehicles*	*Total Vehicle-Hours*	*% of Total*
Private Vehicles	7,119	19,195	36.1%
Law Enforcement & Emergency Vehicles	3,315	13,494	25.4%
Agency Vehicles	1,479	5,805	10.9%
Government Vehicles (unspecified)	441	1,283	2.4%
Commercial Vehicles	3,703	7,289	13.7%
Taxis & Black Cars	1,297	1,651	3.1%
Special Permit Vehicles	470	1,779	3.3%
Other Vehicles	89	252	0.5%
Fake Permit Vehicles	473	2,001	3.8%
Transit Vehicles	83	138	0.3%
Incongruous Vehicles	101	278	0.5%
Total	18,570	53,165	100.0%

Table 28 – LM Vehicle/Permit Type Shares (9AM-5PM)

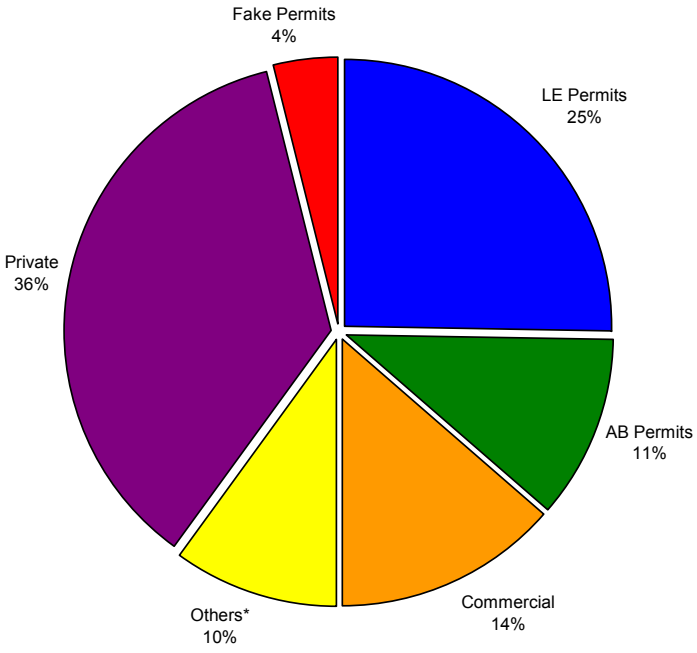

Figure 20 - LM Share of Vehicle/Permit Types (9AM-5PM)

6.2.1 Chinatown/Civic Center

Similar to LM, private vehicles comprise 38% of the observed vehicles in Chinatown/Civic Center, followed by LE permits, AB permits, commercial vehicles, and fake permits. The sum of all permits comprise 46% of the vehicles.

Table 29 and Figure 21 represent the distribution of total vehicle hours based on vehicle groupings for the 9AM-5PM peak period in the Chinatown/Civic Center sub-area. The table displays the total number of vehicles and their respective vehicle-hours for each category, while the figure shows the relative share amongst the key users.

Vehicle/Permit Type	***Total Vehicles***	***Total Vehicle-Hours***	***% of Total***
Private Vehicles	3,870	9,754	37.8%
Law Enforcement & Emergency Vehicles	1,697	6,715	26.0%
Agency Vehicles	880	3,165	12.3%
Government Vehicles (unspecified)	168	474	1.8%
Commercial Vehicles	1,585	2,771	10.7%
Taxis & Black Cars	464	644	2.5%
Special Permit Vehicles	256	874	3.4%
Other Vehicles	79	228	0.9%
Fake Permit Vehicles	242	996	3.9%
Transit Vehicles	50	95	0.4%
Incongruous Vehicles	49	111	0.4%
Total	9,340	25,827	100.0%

Table 29 - CCC Vehicle/Permit Type Shares (9AM-5PM)

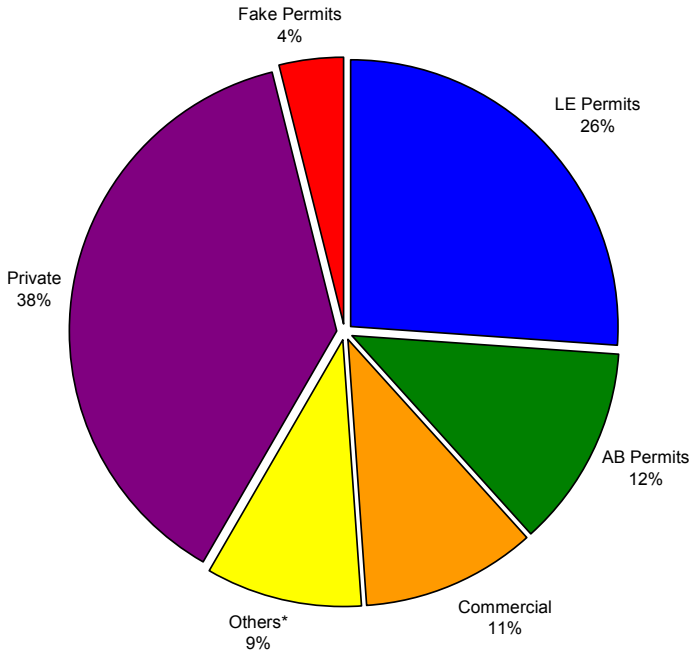

Figure 21 - CCC Share of Vehicle/Permit Types (9AM-5PM)

6.2.2 Financial District

A much smaller proportion of private vehicles were observed in the Financial District than in LM or CCC. 24% of peak hour vehicles were private, while LE permits comprised 26% of the vehicles. All permits made up 43% of the vehicles. Worth noting is that commercial vehicles also made up a substantial portion of the vehicles observed, specifically a nearly equal share to private vehicles.

Table 30 and Figure 22 represent the distribution of total vehicle hours based on vehicle groupings for the 9AM-5PM peak period in the Financial District sub-area. The table displays the total number of vehicles and their respective vehicle-hours for each category, while the figure shows the relative share amongst the key users.

Vehicle/Permit Type	***Total Vehicles***	***Total Vehicle-Hours***	***% of Total***
Private Vehicles	991	2,453	23.6%
Law Enforcement & Emergency Vehicles	603	2,646	25.5%
Agency Vehicles	222	884	8.5%
Government Vehicles (unspecified)	135	414	4.0%
Commercial Vehicles	1,134	2,414	23.3%
Taxis & Black Cars	439	497	4.8%
Special Permit Vehicles	97	400	3.9%
Other Vehicles	7	17	0.2%
Fake Permit Vehicles	122	521	5.0%
Transit Vehicles	17	22	0.2%
Incongruous Vehicles	37	106	1.0%
Total	3,804	10,374	100.0%

Table 30 - FD Vehicle/Permit Type Shares (9AM-5PM)

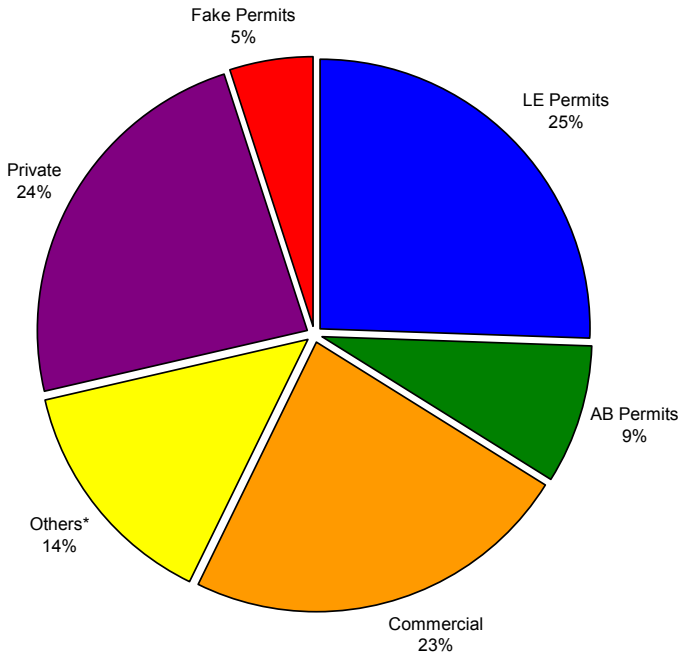

Figure 22 - FD Share of Vehicle/Permit Types (9AM-5PM)

6.2.3 Greenwich South

LE Permits dominated the observed vehicles in Greenwich South, comprising 43% in the peak period, followed by private vehicles with a 25% share, and AB permits at 13%. Permits as a whole garnished an almost 62% share of observed vehicles.

Table 31 and Figure 23 represent the distribution of total vehicle hours based on vehicle groupings for the 9AM-5PM peak period in the Greenwich South sub-area. The table displays the total number of vehicles and their respective vehicle-hours for each category, while the figure shows the relative share amongst the key users.

Vehicle/Permit Type	***Total Vehicles***	***Total Vehicle-Hours***	***% of Total***
Private Vehicles	180	465	25.1%
Law Enforcement & Emergency Vehicles	209	787	42.5%
Agency Vehicles	50	235	12.7%
Government Vehicles (unspecified)	18	58	3.1%
Commercial Vehicles	76	166	9.0%
Taxis & Black Cars	7	11	0.6%
Special Permit Vehicles	13	75	4.1%
Other Vehicles	0	0	0.0%
Fake Permit Vehicles	10	51	2.8%
Transit Vehicles	2	2	0.1%
Incongruous Vehicles	0	0	0.0%
Total	565	1,850	100.0%

Table 31 - GS Vehicle/Permit Type Shares (9AM-5PM)

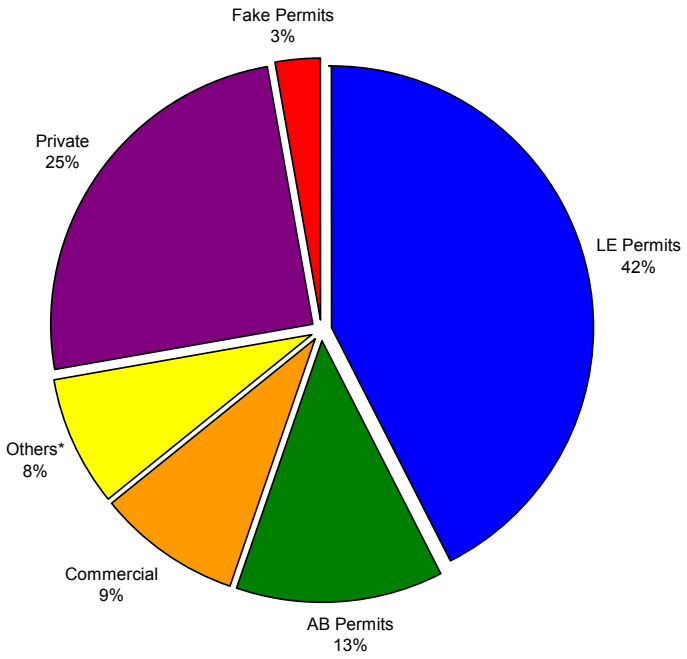

Figure 23 - GS Share of Vehicle/Permit Types (9AM-5PM)

6.2.4 Battery Park City

Battery Park City is heavily residential and the amount of private vehicles observed supports that. Nearly 75% of vehicles observed between 9AM-5PM were private. Of the remaining 25% of vehicles observed, all permits totaled 13% with commercial and for-hire vehicles each accounting for 6%.

Table 32 and Figure 24 represent the distribution of total vehicle hours based on vehicle groupings for the 9AM-5PM peak period in the BPC sub-area. The table displays the total number of vehicles and their respective vehicle-hours for each category, while the figure shows the relative share amongst the key users.

Vehicle/Permit Type	***Total Vehicles***	***Total Vehicle-Hours***	***% of Total***
Private Vehicles	980	3,222	74.2%
LE Permits	133	325	7.5%
Agency Vehicles	22	74	1.7%
Government Vehicles (unspecified)	17	34	0.8%
Commercial Vehicles	183	272	6.3%
Taxis & Black Cars	212	240	5.5%
Special Permit Vehicles	30	104	2.4%
Other Vehicles	0	0	0.0%
Fake Permit Vehicles	14	49	1.1%
Transit Vehicles	12	17	0.4%
Incongruous Vehicles	4	8	0.2%
Total	1,607	4,345	100.0%

Table 32 - BPC Vehicle/Permit Type Shares (9AM-5PM)

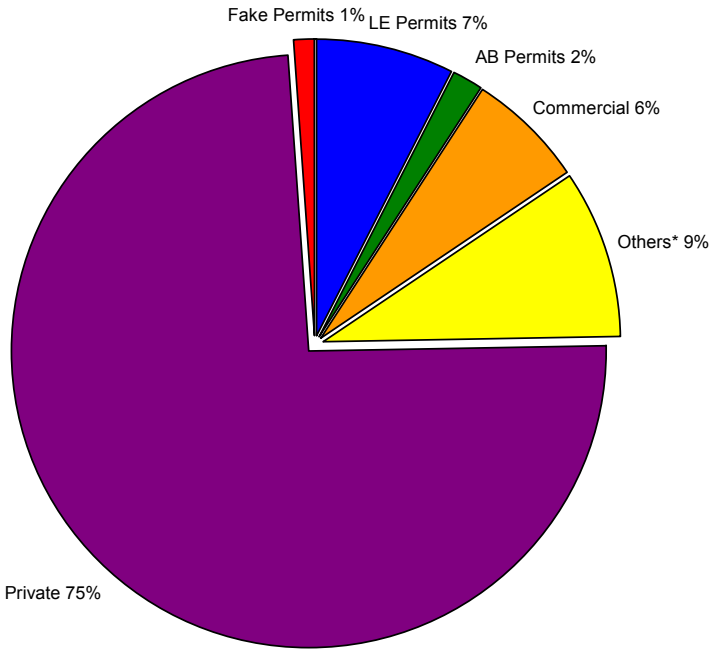

Figure 24 - BPC Share of Vehicle/Permit Types (9AM-5PM)

6.2.5 Tribeca

In Tribeca, the private vehicle share amounted to 31% during the peak period. LE Permits represent 28% and permits as a whole totaled 48%. Commercial vehicles amounted to 16%.

Table 33 and Figure 25 represent the distribution of total vehicle hours based on vehicle groupings for the 9AM-5PM peak period in the Tribeca sub-area. The table displays the total number of vehicles and their respective vehicle-hours for each category, while the figure shows the relative share amongst the key users.

Vehicle/Permit Type	***Total Vehicles***	***Total Vehicle-Hours***	***% of Total***
Private Vehicles	1,098	3,301	30.7%
Law Enforcement & Emergency Vehicles	673	3,021	28.1%
Agency Vehicles	305	1,447	13.4%
Government Vehicles (unspecified)	103	303	2.8%
Commercial Vehicles	725	1,666	15.5%
Taxis & Black Cars	175	259	2.4%
Special Permit Vehicles	74	326	3.0%
Other Vehicles	3	7	0.1%
Fake Permit Vehicles	85	384	3.6%
Transit Vehicles	2	2	0.0%
Incongruous Vehicles	11	53	0.5%
Total	3,254	10,769	100.0%

Table 33 - TBC Vehicle/Permit Type Shares (9AM-5PM)

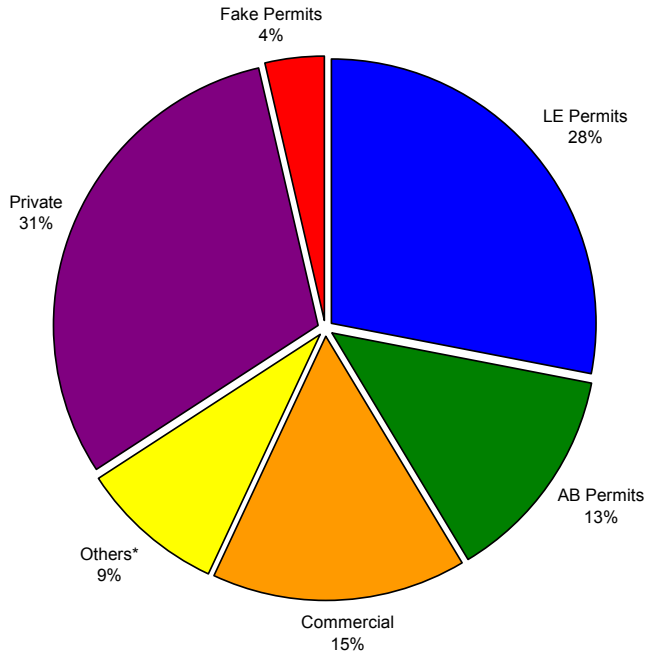

Figure 25 - TBC Share of Vehicle/Permit Types (9AM-5PM)

6.3 Parking by Time of Day

A simple way of understanding the demand over the course of the day is through an hour-by-hour representation. This allows the user to understand the demand as a typical day progresses. The Lower Manhattan study area shows a typical pattern of hourly parking. Parking demand steadily increases from 7am (5,400 vehicles) to 2pm (7,300 vehicles), then falling each hour until the study day ends between 8-9pm (5,400 vehicles).

Figure 26 depicts the distribution of the total number of vehicles, broken down by the various key user groups, over the course of the study day. Additionally, the total supply available in the area and the ideal 85% supply line are both included on the graph.

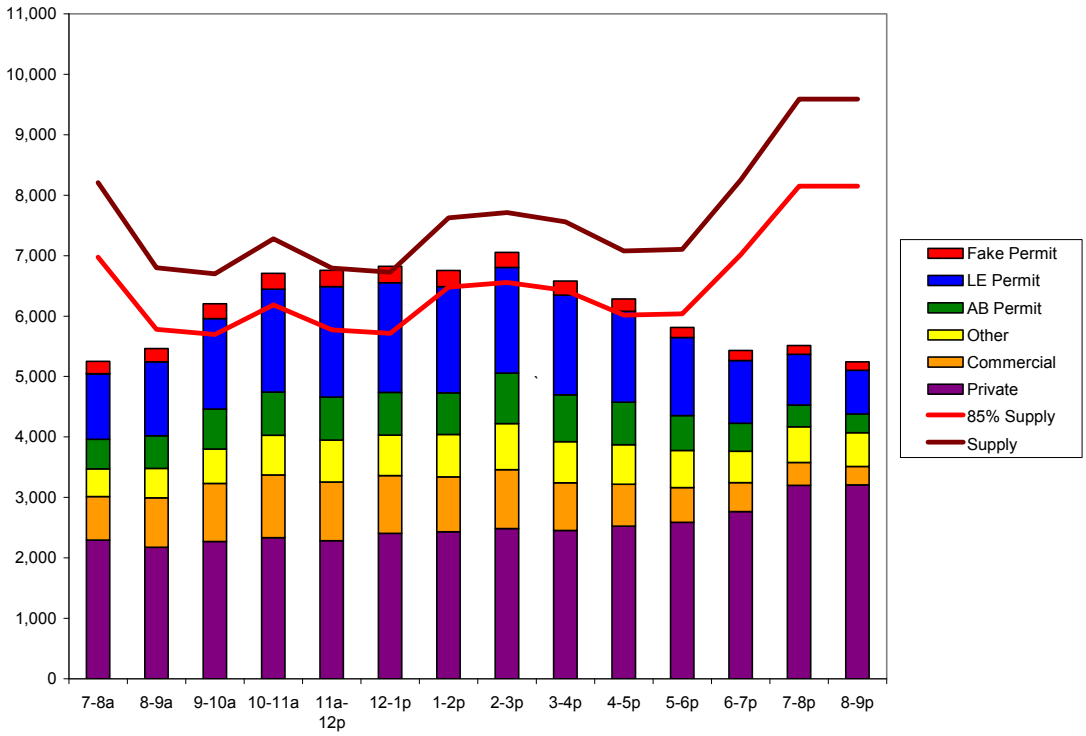

Figure 26 – LM Distribution of Parking by Time of Day

6.3.1 Chinatown/Civic Center

The hourly parking pattern in Chinatown/Civic Center is nearly identical to that of Lower Manhattan. While the actual totals are much less, the demand steadily increases from 7am (2,500 vehicles) to 2pm (3,400 vehicles) and falls each hour until the study day ends between 8-9pm (2,600 vehicles).

Figure 27 depicts the distribution of the total number of vehicles, broken down by the various key user groups, over the course of the study day. Additionally, the total supply available in the area and the ideal 85% supply line are both included on the graph.

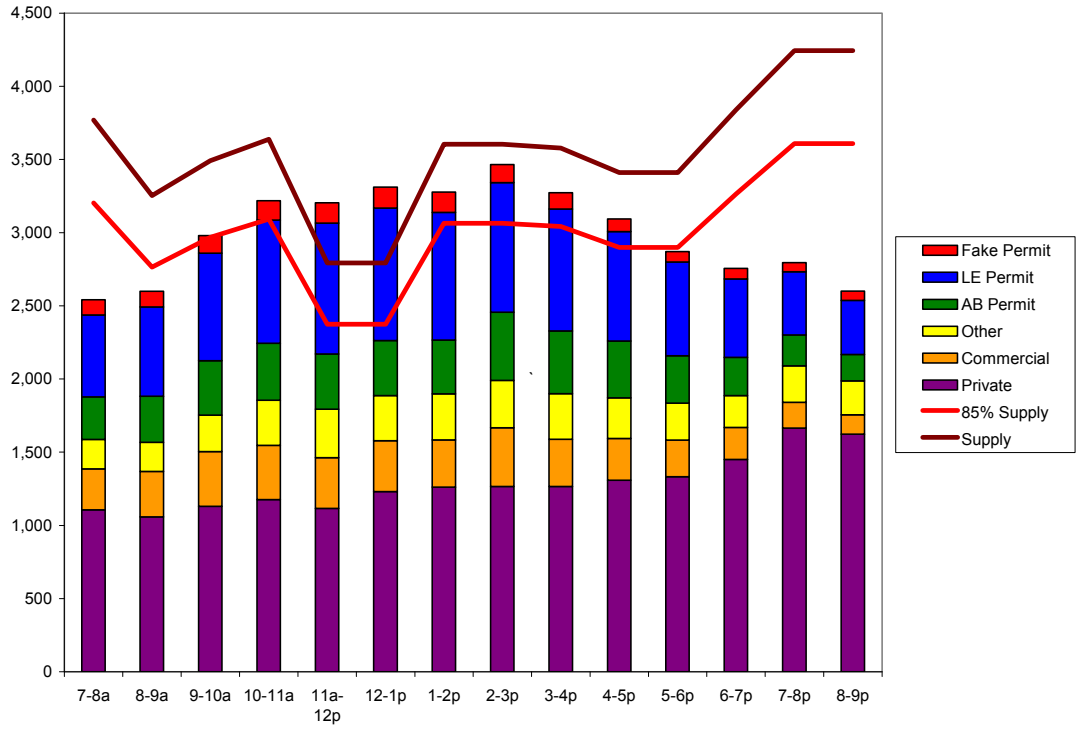

Figure 27 - CCC Distribution of Parking by Time of Day

6.3.2 Financial District

Hourly parking demand in the Financial District is fairly constant. One noticeable difference is that the 2-3pm peak is considerably higher than the rest of the group. Demand falls by nearly 40% in a matter of 4 hours, between 2-3pm and 6-7pm. This is the quickest descent of parking demand out of all the sub-areas. However, the pattern remains generally the same, with approx. 900-1,000 vehicles parking at the beginning and end of the day, and up to 1,500 at peak times.

Figure 28 depicts the distribution of the total number of vehicles, broken down by the various key user groups, over the course of the study day. Additionally, the total supply available in the area and the ideal 85% supply line are both included on the graph.

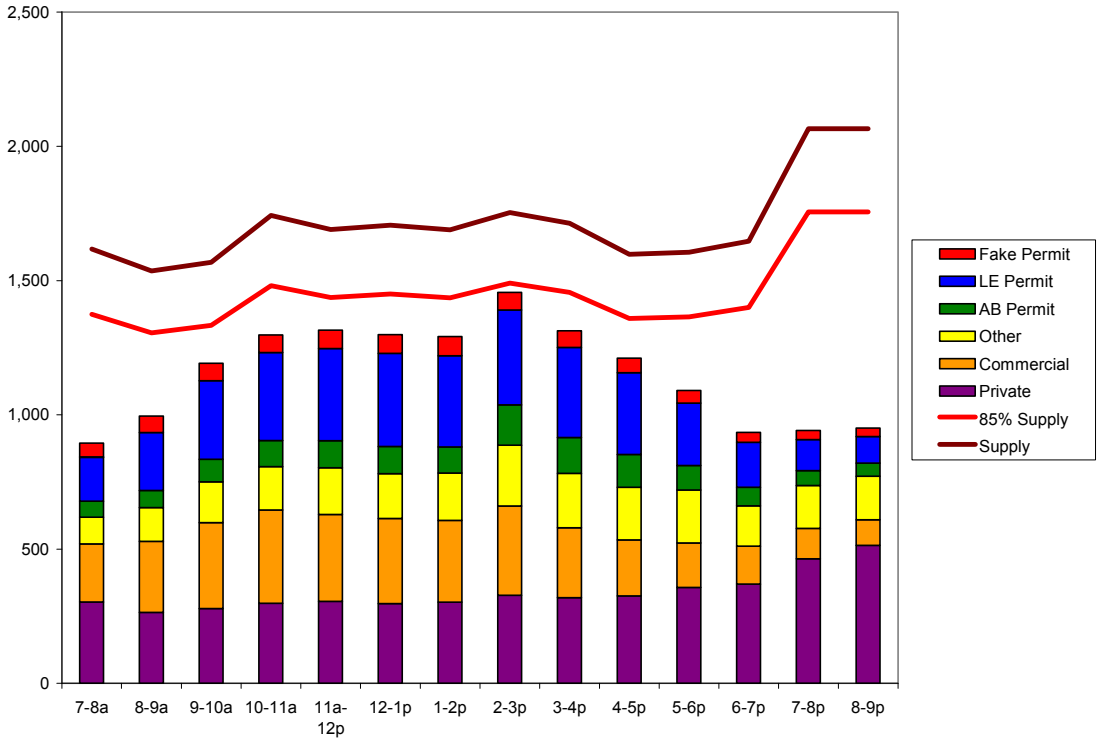

Figure 28 - FD Distribution of Parking by Time of Day

6.3.3 Greenwich South

Greenwich South also experiences a rapid decrease in parking demand in the evening, although the volumes here are by far the smallest of any sub-area. Other sub-areas show similar volumes at the start and finish of the study day, but the demand at the start of the day in GS is 25% higher than at the finish.

Figure 29 depicts the distribution of the total number of vehicles, broken down by the various key user groups, over the course of the study day. Additionally, the total supply available in the area and the ideal 85% supply line are both included on the graph.

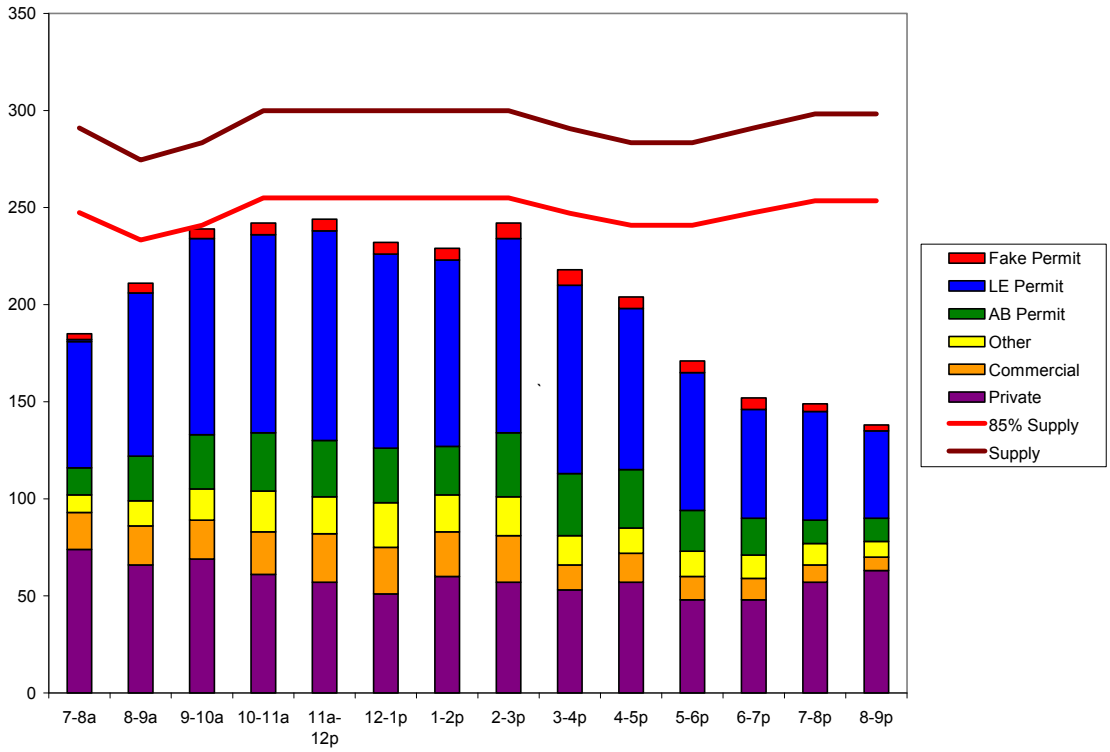

Figure 29 - GS Distribution of Parking by Time of Day

6.3.4 Battery Park City

The Battery Park City demand is largely residential (private vehicles) in nature, more so than any other sub-area. As a result, the demand over the course of the day shows very little fluctuation. The largest single hour change is 14% (9-10am to 10-11am), and greatest difference in any two hours is 18%, between the 2-3pm and 8-9pm. Figure 30 depicts the distribution of the total number of vehicles, broken down by the various key user groups, over the course of the study day. Additionally, the total supply available in the area and the ideal 85% supply line are both included on the graph.

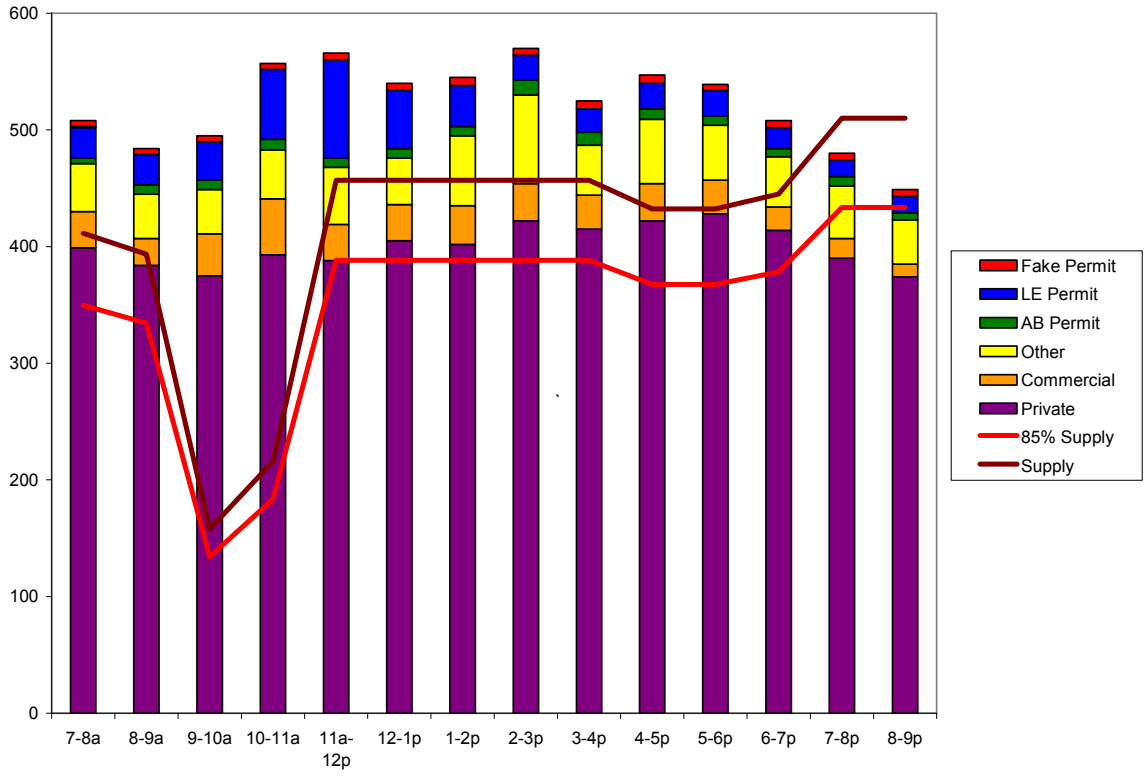

Figure 30 - BPC Distribution of Parking by Time of Day

6.3.5 Tribeca

Tribeca shows the typical demand patterns that have been observed in the other sub-areas. The most striking contrast here is that this is the only sub-area where demand does not peak in the 2-3pm timeframe. Instead, the peak demand occurs two hours before, between 12-1pm, and then consistently falls until 7pm. Again, the start and finish of the study day have almost the exact same demand, within 1% of each other. Figure 31 depicts the distribution of the total number of vehicles, broken down by the various key user groups, over the course of the study day. Additionally, the total supply available in the area and the ideal 85% supply line are both included on the graph.

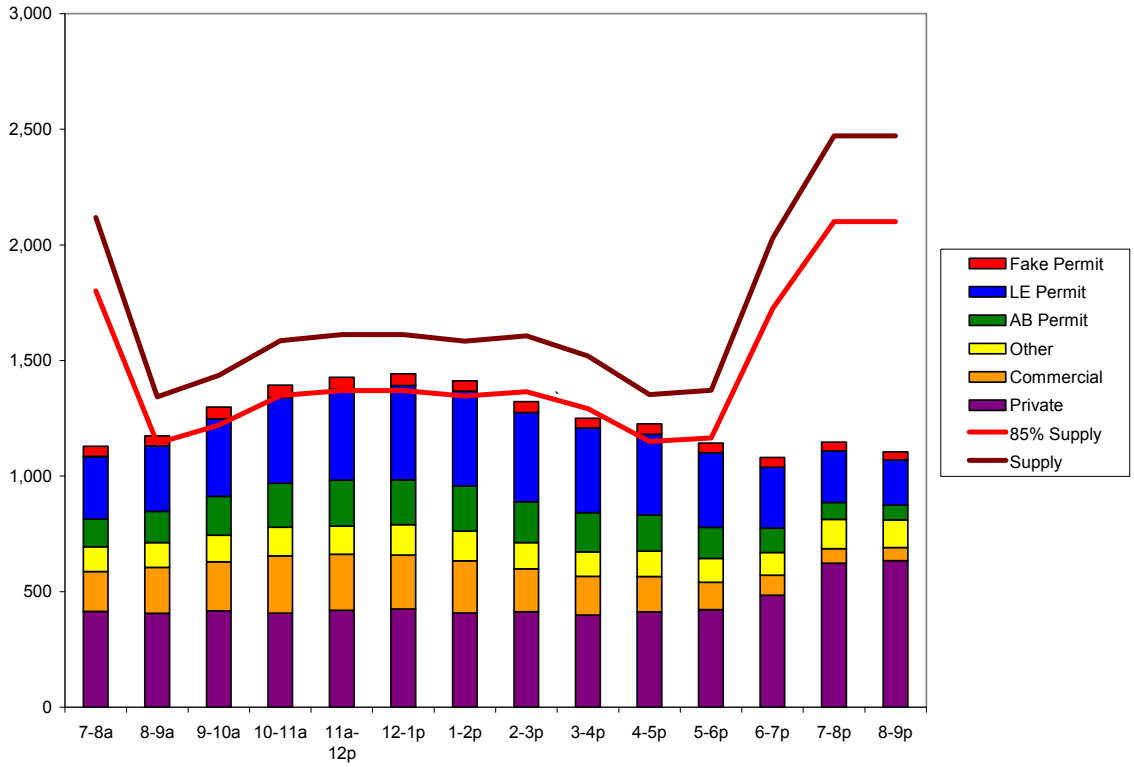

Figure 31 - TBC Distribution of Parking by Time of Day

6.4 Duration of Parking and Turnover

This section describes how long any particular vehicle stayed parked in one space and how often a parking space changed vehicles. The number of hours that a vehicle is observed parked in one place is equal to its parking duration. Dividing the total vehicle-hours spent in one space by the number of vehicles that parked there over that total timeframe, results in mean parking duration. The number of vehicles that utilize a particular space represents its turnover.

A space governed by a parking meter, for example, has a high turnover because it has both a time and cost component associated with it, while an unregulated space has nothing that compels a vehicle to be moved.

For the purposes of this study, parking duration is of particular interest in order to understand how long particular user groups are parking. By compiling total vehicle-hours parked for the various user groups and dividing by their respective number of vehicles, a mean parking duration was obtained.

For all of Lower Manhattan, the longest mean parking stays in the peak hours belong to permitted vehicles, with Fake, LE, and AB respectively filling the top three spots and all staying for at least four hours. Commercial vehicles have the shortest stay, at two hours.

The mean length of stay for the various user groups is presented in Table 34.

User Group	Total Vehicles	Total Parking Stay	Mean Parking Stay
LE Permit	3,315	13,494	4.1
AB Permit	1,479	5,805	3.9
Commercial	3,703	7,289	2.0
Other	2,481	5,381	2.2
Private	7,119	19,195	2.7
Fake Permit	473	2,001	4.2
Total	18,570	53,165	2.9

Table 34 – LM Mean Parking Duration (9AM-5PM)

The above information was further broken out to understand what percentage of vehicles within each group was staying for various lengths of time. In Lower Manhattan, the largest percentage of vehicles (43%) stayed for an hour or less, followed by 1-3 hours, more than 6 hours, and 4-5 hours, in that order. Specifically, permitted vehicles stayed for the longest amount of time, with the majority of LE and AB permits staying for 1-3 hours and fake permits for 6+ hours. The majority of all other vehicle types stayed for one hour or less.

This is shown in Table 35. Note that the percentages in this table show the share for each length of stay for each user group. Therefore, the horizontal sum equals 100%..

	<=1 Hr	%	1-3 Hrs	%	4-5 Hrs	%	6+ Hrs	%
LE Permits	676	20%	1,043	31%	622	19%	974	29%
AB Permits	299	20%	530	36%	260	18%	390	26%
Fake Permits	101	21%	130	27%	77	16%	165	35%
Commercial	2,199	59%	999	27%	343	9%	162	4%
Private	3,101	44%	2,259	32%	972	14%	787	11%
All Others	1,520	61%	545	22%	202	8%	214	9%
Total	7,896	43%	5,506	30%	2,476	13%	2,692	14%

Table 35 – LM Distribution of Length of Stays & Share of User Group (9AM-5PM)

AB permits have an additional rule imposed upon them that limits their parking at non-authorized parking curbs to three hours when they are on official business. This rule was designed so that permits do not monopolize the use of curbs that are not designated for them. Once an AB vehicle goes beyond three hours, it becomes an illegally parked vehicle.

The statistics that were compiled to represent this phenomenon are based on the arrival and departure time of vehicles observed in the study. Because the study began at 7am, an AB vehicle cannot be designated as illegal until 10am. As a result, the study day for this analysis is from 10AM-9PM. Vehicles that park overnight, based on both Day 1 and Day 2 data, are also parked for longer than three hours, although these are discussed in the overnight parking section and are not included in these totals.

Additionally, these figures are based on the determination that was made in the field as to whether the permit is of the AB or LE type. This is important to note because the 3+ hour rule does not apply to LE permits. However, some agencies that are normally considered to be law enforcement related do have additional permits which state “Official Business.” These were classified as Agency Business permits and qualify to be scrutinized for violation of the 3+ hour rule.

6.4.1 Chinatown/Civic Center

Vehicles park for an average of three hours in Chinatown/Civic Center. Since Lower Manhattan tends to act similarly to CCC, permitted vehicles had the longest stay of 3.9 hours, followed by private vehicles for 2.5 hours, other vehicles for 2.3 hours, and commercial vehicles for 1.7 hours. The mean length of stay for the various user groups is presented in Table 36.

User Group	Total Vehicles	Total Parking Stay	Mean Parking Stay
LE Permit	1,697	6,715	4.0
AB Permit	880	3,165	3.6
Commercial	1,585	2,771	1.7
Other	1,066	2,426	2.3
Private	3,870	9,754	2.5
Fake Permit	242	996	4.1
Total	9,340	25,827	2.8

Table 36 - CCC Mean Parking Duration (9AM-5PM)

In total, the largest group of vehicles parked for an hour or less in Chinatown/Civic Center. Private, commercial, and other vehicle types all parked in this manner close to or more than half the time. The majority of permitted vehicles again stayed for longer periods of time. The distribution of length of stays and shares among user groups is shown in Table 37. Please note the totals are horizontal.

	<=1 Hr	%	1-3 Hrs	%	4-5 Hrs	%	6+ Hrs	%
LE Permits	386	23%	541	32%	277	16%	493	29%
AB Permits	211	24%	338	38%	130	15%	201	23%
Fake Permits	56	23%	64	26%	39	16%	83	34%
Commercial	1,050	66%	385	24%	105	7%	45	3%
Private	1,824	47%	1,214	31%	449	12%	383	10%
All Others	600	56%	269	25%	99	9%	98	9%
Total	4,127	44%	2,811	30%	1,099	12%	1,303	14%

Table 37 - CCC Distribution of Length of Stays and Share of User Group (9AM-5PM)

6.4.2 Financial District

LE and AB permits have the longest parking duration in the Financial District, at 4.3 hours. All other vehicle types again stay for 2-2.5 hours. The mean length of stay for the various user groups is presented in Table 38.

User Group	Total Vehicles	Total Parking Stay	Mean Parking Stay
LE Permit	603	2,646	4.4
AB Permit	222	884	4.0
Commercial	1,134	2,414	2.1
Other	732	1,456	2.0
Private	991	2,453	2.5
Fake Permit	122	521	4.3
Total	3,804	10,374	2.7

Table 38 - FD Mean Parking Duration (9AM-5PM)

The distribution of stays doesn't show much change in the Financial District. Commercial vehicles were the quickest to park and leave, with 56% staying for an hour or less. LE and fake permits stayed for the longest duration, 35% and 34% for six hours or more respectively. The distribution of length of stays and shares amongst user groups is shown in Table 39. Please note the totals going across the rows.

	<=1 Hr	%	1-3 Hrs	%	4-5 Hrs	%	6+ Hrs	%
LE Permits	103	17%	187	31%	104	17%	209	35%
AB Permits	46	21%	84	38%	28	13%	64	29%
Fake Permits	24	20%	37	30%	19	16%	42	34%
Commercial	631	56%	306	27%	133	12%	64	6%
Private	501	51%	283	29%	93	9%	114	12%
All Others	495	68%	141	19%	38	5%	58	8%
Total	1,800	47%	1,038	27%	415	11%	551	14%

Table 39 - FD Distribution of Length of Stays & Share of User Group (9AM-5PM)

6.4.3 Greenwich South

While the amount of parking in Greenwich South is much smaller compared to the previous sub-areas, the parking duration patterns remain largely the same. The mean length of stay for the various user groups is presented in Table 40.

User Group	Total Vehicles	Total Parking Stay	Mean Parking Stay
LE Permit	209	787	3.8
AB Permit	50	235	4.7
Commercial	76	166	2.2
Other	40	146	3.7
Private	180	465	2.6
Fake Permit	10	51	5.1
Total	565	1,850	3.3

Table 40 - GS Mean Parking Duration (9AM-5PM)

Parking patterns in Greenwich South are slightly more even, with the majority remaining in the one hour or less group, but down to 37% of the total. Commercial vehicles were still the best with 59% parking for under an hour and permits in general showed the longest parking duration, ranging from 20-60% parking for six hours or more. The distribution of length of stays and shares among user groups is shown in Table 41. Please note the totals horizontally.

	<=1 Hr	%	1-3 Hrs	%	4-5 Hrs	%	6+ Hrs	%
LE Permits	52	25%	58	28%	44	21%	55	26%
AB Permits	5	10%	16	32%	9	18%	20	40%
Fake Permits	3	30%	1	10%	0	0%	6	60%
Commercial	45	59%	17	22%	5	7%	9	12%
Private	89	49%	46	26%	24	13%	21	12%
All Others	16	40%	8	20%	4	10%	12	30%
Total	210	37%	146	26%	86	15%	123	22%

Table 41 - GS Distribution of Length of Stays & Share of User Group (9AM-5PM)

6.4.4 Battery Park City

Battery Park City also has a smaller sample size, with fake permits having the longest parking duration of 3.5 hours. However, private vehicles considerably outnumber all other types in BPC and thus their 3.3 hour average stay is important. Commercial vehicles park for the shortest mean duration of only 1.5 hours. The mean length of stay for the various user groups is presented in Table 42.

User Group	Total Vehicles	Total Parking Stay	Mean Parking Stay
LE Permit	133	325	2.4
AB Permit	22	74	3.4
Commercial	183	272	1.5
Other	275	403	1.5
Private	980	3,222	3.3
Fake Permit	14	49	3.5
Total	1,607	4,345	2.7

Table 42 - BPC Mean Parking Duration (9AM-5PM)

The parking patterns in BPC continue to reflect its residential land use. Private vehicles in BPC were the most likely group to park for the longest, 71% of which did so for more than one hour and 35% of the total staying falling in the 1-3 hour group. Considering their smaller numbers, permitted vehicles in general were more likely to park for shorter durations, 80% of which parked for 3 hours or less. The distribution of length of stays and shares among user groups is depicted in Table 43. Please note the horizontal totals.

	<=1 Hr	%	1-3 Hrs	%	4-5 Hrs	%	6+ Hrs	%
LE Permits	51	38%	59	44%	15	11%	8	6%
AB Permits	4	18%	10	45%	6	27%	2	9%
Fake Permits	3	21%	6	43%	3	21%	2	14%
Commercial	141	77%	31	17%	9	5%	2	1%
Private	283	29%	341	35%	242	25%	114	12%
All Others	226	82%	32	12%	11	4%	6	2%
Total	708	44%	479	30%	286	18%	134	8%

Table 43 - BPC Distribution of Length of Stays & Share of User Group (9AM-5PM)

6.4.5 Tribeca

In Tribeca, permitted vehicles demonstrated the longest parking duration, with all permit types parking on average for 4.6 hours. Private vehicles are the largest single vehicle type observed in the study area and park for 3.0 hours. An interesting note here is that private vehicles outnumber LE permitted vehicles by 63%; however, private vehicle-hours outnumbered LE vehicle-hours by only 9%, indicating a very high LE average duration. The mean length of stay for the various user groups is presented in Table 44.

User Group	Total Vehicles	Total Parking Stay	Mean Parking Stay
LE Permit	673	3,021	4.5
AB Permit	305	1,447	4.7
Commercial	725	1,666	2.3
Other	368	950	2.6
Private	1,098	3,301	3.0
Fake Permit	85	384	4.5
Total	3,254	10,769	3.3

Table 44 - TBC Mean Parking Duration (9AM-5PM)

Tribeca shows the most even distribution of parking durations. 32% of the total vehicles parked for under an hour, while 32% parked for 1-3 hours, 18% for 4-5 hours, and 18% for longer than six hours. Private vehicles constituted the majority of vehicles and most parked for under an hour. Permits again were parking for the longest with the majority of all permit types parking for at least six hours. The distribution of length of stays and shares among user groups is depicted in Table 45. Again, please note the horizontal totals.

	<=1 Hr	%	1-3 Hrs	%	4-5 Hrs	%	6+ Hrs	%
LE Permits	84	12%	198	29%	182	27%	209	31%
AB Permits	33	11%	82	27%	87	29%	103	34%
Fake Permits	15	18%	22	26%	16	19%	32	38%
Commercial	332	46%	260	36%	91	13%	42	6%
Private	404	37%	375	34%	164	15%	155	14%
All Others	183	50%	95	26%	50	14%	40	11%
Total	1,051	32%	1,032	32%	590	18%	581	18%

Table 45 - TBC Distribution of Length of Stays & Share of User Group (9AM-5PM)

6.5 Permit Types

While this report focuses on the AB and LE permit types, there are many other official permits (See Table 2), most of which were observed in the field. Throughout Lower Manhattan, only about 9% of observed legitimate permits were non-LE or AB permits. The most frequently observed of which was NYC Handicapped permits, totaling nearly 6%, with all of the remaining types equaling roughly 3%.

This pattern remains largely similar throughout all five sub-areas. For this reason, no explanations are given in the sub-area sections and the tables are left to speak for themselves. Table 46 lists all officially recognized permits, and the number of vehicles and vehicle-hours that were observed in Lower Manhattan over during the peak hours of 9AM-5PM.

Permit Type	Total Vehicles	Vehicle-Hours	% of Total
Agency Business	1,516	5,904	28.2%
Clergy	28	68	0.3%
Diplomat	0	0	0.0%
Film	18	90	0.4%
Handicapped-NYC	289	1,161	5.5%
Handicapped-NYS	33	145	0.7%
Law Enforcement	3,193	13,205	63.0%
On-Street	49	171	0.8%
Press	40	118	0.6%
Scouting	2	16	0.1%
Single-Use	35	69	0.3%
Total	5,203	20,947	100.0%

Table 46 - LM Total Vehicles & Vehicle-Hours Observed by Legitimate Permit Type (9AM-5PM)

A significant number of illegitimate permits including Pseudo Placards, signs, letters, counterfeits and other outright fakes were noted by the data collection team. These vehicles constituted about 4% of the total vehicle population and 9% of all permits, legitimate or otherwise.

As previously stated, the process of identifying these permits was dependent on the judgment of the data collector. While they were given guidelines and photos for determining when a permit was or was not counterfeit, it is hard to know exactly how many permits that were noted as being real were actually counterfeit, and vice versa.

36% of illegitimate permits in Lower Manhattan were lumped into an “Other” category because either their permit was indeterminable or the vehicle used something that couldn’t be categorized to identify itself as being official. Out of the seemingly illegitimate permits that were identifiable, roughly 37% were noted as being pseudo placards, meaning something very closely resembling an official placard that is produced by unions or law enforcement entities with the presumption that they are legal and official.

Again, for illegitimate permit types observed in the five sub-areas, the pattern is either largely similar to the overall study area or the volumes are too small to justify an explanation. As a result, the illegitimate permit tables are also allowed to speak for themselves. A few differences that jump out are that 70% of all illegitimate permits observed in the Financial District were considered Pseudo Placards, while 88% in Greenwich South were noted as being letters (items written/typed and signed by someone seeming to be in a position to do this). A break down of the number of vehicles observed possessing these illegitimate permits during the peak hours follows in Table 47.

Permit Type	Total Vehicles	Vehicle-Hours	% of Total
Fake	14	63	3.0%
Letter	73	304	14.3%
Pseudo Placard	175	782	36.8%
Sign	57	211	9.9%
Other	194	763	35.9%
Total	513	2,123	65.9%

Table 47 - LM Total Vehicles & Vehicle-Hours Observed by Illegitimate Permit Type (9AM-5PM)

6.5.1 Chinatown/Civic Center

Table 48 lists all officially recognized permits, and the number of vehicles and vehicle-hours, that were observed in Chinatown/Civic Center during the peak hours. Similarly, a break down of the number of vehicles observed possessing illegitimate permits follows in Table 49.

Permit Type	Total Vehicles	Vehicle-Hours	% of Total
Agency Business	907	3,228	29.9%
Clergy	26	65	0.6%
Diplomat	0	0	0.0%
Film	13	72	0.7%
Handicapped-NYC	132	479	4.4%
Handicapped-NYS	9	43	0.4%
Law Enforcement	1,676	6,686	61.9%
On-Street	37	113	1.0%
Press	19	56	0.5%
Scouting	2	16	0.1%
Single-Use	30	52	0.5%
Total	2,851	10,810	100.0%

Table 48 - CCC Total Vehicles & Vehicle-Hours Observed by Legitimate Permit Type (9AM-5PM)

Permit Type	Total Vehicles	Vehicle-Hours	% of Total
Fake	12	52	5.1%
Letter	40	171	16.7%
Pseudo Placard	69	315	30.8%
Sign	38	144	14.1%
Other	92	340	33.3%
Total	251	1,022	67.9%

Table 49 - CCC Total Vehicles & Vehicle-Hours Observed by Illegitimate Permit Type (9AM-5PM)

6.5.2 Financial District

Table 50 lists all officially recognized permits, and the number of vehicles and vehicle-hours, that were observed in the Financial District during the peak hours. Similarly, a break down of the number of vehicles observed possessing illegitimate permits follows in Table 51.

Permit Type	Total Vehicles	Vehicle-Hours	% of Total
Agency Business	230	907	23.1%
Clergy	0	0	0.0%
Diplomat	0	0	0.0%
Film	0	0	0.0%
Handicapped-NYC	72	287	7.3%
Handicapped-NYS	15	66	1.7%
Law Enforcement	576	2,587	66.0%
On-Street	11	55	1.4%
Press	3	5	0.1%
Scouting	0	0	0.0%
Single-Use	4	12	0.3%
Total	911	3,919	100.0%

Table 50 - FD Total Vehicles and Vehicle-Hours Observed by Legitimate Permit Type (9AM-5PM)

Permit Type	Total Vehicles	Vehicle-Hours	% of Total
Fake	0	0	0.0%
Letter	15	38	6.5%
Pseudo Placard	89	407	70.1%
Sign	9	32	5.5%
Other	31	104	17.9%
Total	144	581	67.1%

Table 51 - FD Total Vehicles and Vehicle-Hours Observed by Illegitimate Permit Type (9AM-5PM)

6.5.3 Greenwich South

Table 52 lists all officially recognized permits, and the number of vehicles and vehicle-hours, that were observed in Greenwich South during the peak hours. Similarly, a break down of the number of vehicles observed possessing illegitimate permits follows in Table 53.

Permit Type	Total Vehicles	Vehicle-Hours	% of Total
Agency Business	50	235	23.5%
Clergy	0	0	0.0%
Diplomat	0	0	0.0%
Film	0	0	0.0%
Handicapped-NYC	13	75	7.5%
Handicapped-NYS	0	0	0.0%
Law Enforcement	174	689	69.0%
On-Street	0	0	0.0%
Press	0	0	0.0%
Scouting	0	0	0.0%
Single-Use	0	0	0.0%
Total	237	999	100.0%

Table 52 - GS Total Vehicles and Vehicle-Hours Observed by Legitimate Permit Type (9AM-5PM)

Permit Type	Total Vehicles	Vehicle-Hours	% of Total
Fake	0	0	0.0%
Letter	6	45	88.2%
Pseudo Placard	2	4	7.8%
Sign	2	2	3.9%
Other	0	0	0.0%
Total	10	51	65.4%

Table 53 - GS Total Vehicles and Vehicle-Hours Observed by Illegitimate Permit Type (9AM-5PM)

6.5.4 Battery Park City

Table 54 lists all officially recognized permits, and the number of vehicles and vehicle-hours, that were observed in Battery Park City during the peak hours. Similarly, a break down of the number of vehicles observed possessing illegitimate permits follows in Table 55.

Permit Type	Total Vehicles	Vehicle-Hours	% of Total
Agency Business	22	74	15.4%
Clergy	0	0	0.0%
Diplomat	0	0	0.0%
Film	0	0	0.0%
Handicapped-NYC	20	75	15.6%
Handicapped-NYS	0	0	0.0%
Law Enforcement	119	296	61.7%
On-Street	0	0	0.0%
Press	12	30	6.3%
Scouting	0	0	0.0%
Single-Use	1	5	1.0%
Total	174	480	100.0%

Table 54 – BPC Total Vehicles and Vehicle-Hours Observed by Legitimate Permit Type (9AM-5PM)

Permit Type	Total Vehicles	Vehicle-Hours	% of Total
Fake	0	0	0.0%
Letter	4	14	27.5%
Pseudo Placard	3	9	17.6%
Sign	0	0	0.0%
Other	8	28	54.9%
Total	15	51	60.7%

Table 55 - BPC Total Vehicles and Vehicle-Hours Observed by Illegitimate Permit Type (9AM-5PM)

6.5.5 Tribeca

Table 56 lists all officially recognized permits, and the number of vehicles and vehicle-hours, that were observed in Tribeca during the peak hours. Similarly, a break down of the number of vehicles observed possessing illegitimate permits follows in Table 57.

Permit Type	Total Vehicles	Vehicle-Hours	% of Total
Agency Business	307	1,460	30.8%
Clergy	2	3	0.1%
Diplomat	0	0	0.0%
Film	5	18	0.4%
Handicapped-NYC	52	245	5.2%
Handicapped-NYS	9	36	0.8%
Law Enforcement	648	2,947	62.2%
On-Street	1	3	0.1%
Press	6	27	0.6%
Scouting	0	0	0.0%
Single-Use	0	0	0.0%
Total	1,030	4,739	100.0%

Table 56 - TBC Total Vehicles and Vehicle-Hours Observed by Legitimate Permit Type (9AM-5PM)

Permit Type	Total Vehicles	Vehicle-Hours	% of Total
Fake	2	11	2.6%
Letter	8	36	8.6%
Pseudo Placard	12	47	11.2%
Sign	8	33	7.9%
Other	63	291	69.6%
Total	93	418	60.8%

Table 57 - TBC Total Vehicles and Vehicle-Hours Observed by Illegitimate Permit Type (9AM-5PM)

6.6 Permit Parking in Commercial and Metered Spaces

According to the authorized parking rules and regulations implemented by the APU, certain AB and LE permits are allowed to park in some areas that are not specifically designated for them, such as commercial loading areas and meters. While it is legal for them to do this (considered L2 in our previously discussed classification), it does take parking supply away from other users. For example, every permit vehicle-hour in a commercial loading zone means one less space-hour available to a truck for making deliveries.

LE and AB permits spent nearly 5,500 vehicle-hours during peak hours (9AM-5PM) in all of Lower Manhattan parked in active commercial regulations, and another 1,100+ vehicle-hours parked at live meters. This means that 20% of the total commercial supply was unavailable to commercial vehicles and 15% of the total metered supply was unavailable to the public. When all permits (AB, LE, other real, and fake) are considered, 23% of the commercial supply and 19% of the metered supply was occupied over the course of the study day.

Table 58 shows the number of total vehicles and vehicle-hours that are displaced by permit parking in commercial and metered parking areas, as well as the percentage of the available space-hours for that regulation that is lost to these vehicles.

	Commercial			Meters		
	Vehicles	Vehicle-Hours	% of Comm Space-Hours	Vehicles	Vehicle-Hours	% of Metered Space-Hours
AB Permit	405	1,558	5.7%	137	447	5.6%
LE Permit	982	3,920	14.3%	183	717	9.0%
Fake Permit	107	390	1.4%	30	101	1.3%
Other Permit	136	506	1.8%	63	246	3.1%
Total	1,630	6,374	23.3%	413	1,511	19.1%

Table 58 - LM Permit Parking in Commercial and Metered Regulations (9AM-5PM)

6.6.1 Chinatown/Civic Center

In the Chinatown/Civic Center sub-area, LE and AB permitted vehicles parked in active commercial regulations for a total of 2,400 vehicle-hours during the peak period, and another 700+ parked at live meters. All permits together occupied 28% of all peak commercial space-hours and 20% of peak metered supply in CCC. Table 59 shows the number of total vehicles and vehicle-hours that are displaced by permit parking in commercial and metered parking areas, as well as the percentage of the available space-hours for that regulation that is lost to these vehicles.

	Commercial			Meters		
	Vehicles	Vehicle-Hours	% of Comm Space-Hours	Vehicles	Vehicle-Hours	% of Metered Space-Hours
AB Permit	189	610	6.0%	114	381	8.0%
LE Permit	466	1,787	17.6%	107	363	7.6%
Fake Permit	43	154	1.5%	15	49	1.0%
Other Permit	84	277	2.7%	46	174	3.6%
Total	782	2,828	27.8%	282	967	20.3%

Table 59 - CCC Permit Parking in Commercial and Metered Regulations (9AM-5PM)

6.6.2 Financial District

LE and AB permits occupied more than 1,400 commercial space-hours over the course of the study day in the Financial District, and another 80 metered space-hours. The sum of all permit types removed 20% of the total commercial supply and 14% of the total metered supply from 9AM-5PM. Table 60 shows the number of total vehicles and vehicle-hours that are displaced by permit parking in commercial and metered parking areas, as well as the percentage of the available space-hours for that regulation that is lost to these vehicles.

	Commercial			Meters		
	Vehicles	Vehicle-Hours	% of Comm Space-Hours	Vehicles	Vehicle-Hours	% of Metered Space-Hours
AB Permit	84	315	3.6%	5	8	1.0%
LE Permit	264	1,107	12.7%	18	72	8.9%
Fake Permit	46	165	1.9%	6	22	2.7%
Other Permit	38	171	2.0%	3	8	1.0%
Total	432	1,758	20.2%	32	110	13.6%

Table 60 - FD Permit Parking in Commercial and Metered Regulations (9AM-5PM)

6.6.3 Greenwich South

LE and AB permits spent 119 vehicle-hours over the course of the study day in Greenwich South parked in active commercial regulations, and another 57 parked at live meters. All permit types removed 23% of the commercial supply from the study area and 19% of the metered supply. Table 61 shows the number of total vehicles and vehicle-hours that are displaced by permit parking in commercial and metered parking areas, as well as the percentage of the available space-hours for that regulation that is lost to these vehicles.

	Commercial			Meters		
	Vehicles	Vehicle-Hours	% of Comm Space-Hours	Vehicles	Vehicle-Hours	% of Metered Space-Hours
AB Permit	10	55	8.2%	3	16	5.3%
LE Permit	18	64	9.5%	12	41	13.6%
Fake Permit	2	16	2.4%	0	0	0.0%
Other Permit	3	18	2.7%	1	1	0.3%
Total	33	153	22.8%	16	58	19.3%

Table 61 - GS Permit Parking in Commercial and Metered Regulations (9AM-5PM)

6.6.4 Battery Park City

LE and AB permits spent 61 vehicle-hours over the course of the study day in Battery Park City parked in active commercial regulations and another 27 parked at active meters. 11% of the commercial supply was unavailable due to permit parking and 13% of the metered supply was occupied by these vehicles. Table 62 shows the number of total vehicles and vehicle-hours that are displaced by permit parking in commercial and metered parking areas, as well as the percentage of the available space-hours for that regulation that is lost to these vehicles.

	Commercial			Meters		
	Vehicles	**Vehicle-Hours**	**% of Comm Space-Hours**	**Vehicles**	**Vehicle-Hours**	**% of Metered Space-Hours**
AB Permit	2	9	1.5%	6	11	3.2%
LE Permit	23	52	8.8%	6	16	4.6%
Fake Permit	2	5	0.8%	5	10	2.9%
Other Permit	1	1	0.2%	4	8	2.3%
Total	28	67	11.3%	21	45	12.9%

Table 62 - BPC Permit Parking in Commercial and Metered Regulations (9AM-5PM)

6.6.5 Tribeca

Almost 1,500 commercial space-hours in Tribeca were removed from the supply by LE and AB permits, as well as 250 additional metered space-hours. All permit types together removed 22% of the commercial supply in Tribeca, and 20% of the metered supply. Table 63 shows the number of total vehicles and vehicle-hours that are displaced by permit parking in commercial and metered parking areas, as well as the percentage of the available space-hours for that regulation that is lost to these vehicles.

	Commercial			Meters		
	Vehicles	Vehicle-Hours	% of Comm Space-Hours	Vehicles	Vehicle-Hours	% of Metered Space-Hours
AB Permit	120	569	7.9%	9	31	1.8%
LE Permit	211	910	12.6%	40	225	13.3%
Fake Permit	14	50	0.7%	4	20	1.2%
Other Permit	10	39	0.5%	9	55	3.2%
Total	355	1,568	21.7%	62	331	19.5%

Table 63 - TBC Permit Parking in Commercial and Metered Regulations (9AM-5PM)

6.7 Illegal Permit Parking

Parking in crosswalks, fire hydrants, bus stop, and driveways, and double-parking is always illegal, regardless of the vehicle, permit, time of day, or anything else. These actions hamper the movement of pedestrians, the delivery of goods, the response to emergency situations, and the general flow of vehicles on city streets.

These actions occur in Lower Manhattan at an alarming rate. Nearly 700 permitted vehicles were observed parking in this manner during the peak hours, resulting in a total of over 2,200 illegally parked vehicle-hours. This represents 10% of all permitted vehicle-hours, or in other words, 1 out of 10 permitted vehicles park illegally in one way or another. The most common offense is parking at fire hydrants, with 251 vehicles observed, followed by bus stops (176), crosswalks (142), double-parking (59), and driveways (50). Within the permit types, LE permits commit the most offenses and comprise 58% of all illegal vehicle-hours observed, as well as having the highest illegal parking rate (along with AB permits) at 10%. This type of parking has been given the I1 classification, and the total number of permit vehicles parking in this way is shown in Figure 32.

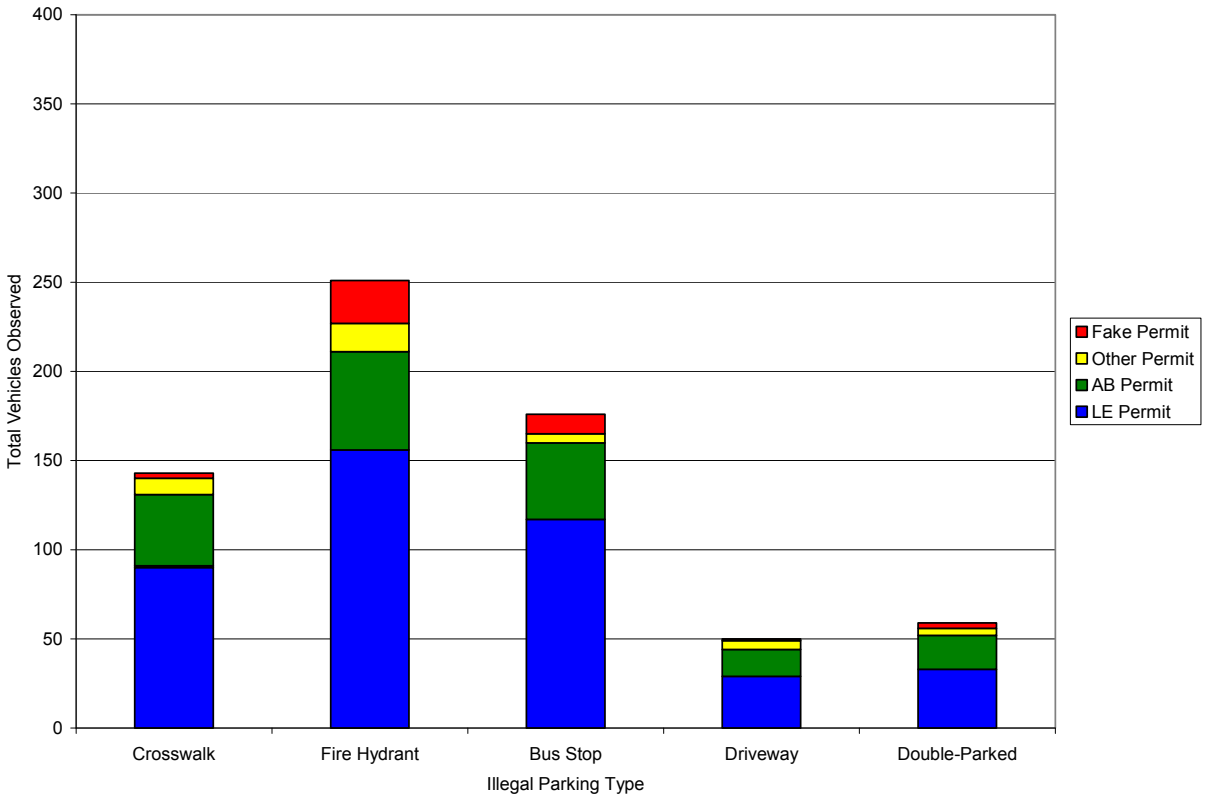

Figure 32 – LM Illegally Parked Permit Vehicles (9AM-5PM)

Table 64 shows the total vehicle-hours in which permit vehicles are parked at these locations during the peak hours. Additionally, the total number of vehicle-hours for each group is also given for reference, and for use in determining the proportion of illegal to total parking for these vehicles.

	Illegal Vehicle-Hours	Total Vehicle-Hours	% Illegal
LE Permit	1,372	13,494	10.2%
AB Permit	597	5,805	10.3%
Other Permit	126	1,779	7.1%
Fake Permit	171	2,001	8.5%
Total	2,266	23,079	9.8%

Table 64 – LM Illegal Permit Parking as % of All Permit Parking (9AM-5PM)

6.7.1 Chinatown/Civic Center

Chinatown/Civic Center has similar illegal parking patterns during the peak period as the Lower Manhattan study area. 393 permitted vehicles were observed to be parked illegally, for a total of 1,200+ vehicle-hours and 10% of all observed permit vehicle-hours. The most common offense again is parking at fire hydrants, with 263 vehicles observed, resulting in 392 vehicle-hours. LE permits account for 57% of the violations, and 12% of all AB permits park in this manner.

The total number of permit vehicles parked at the various illegal locations for each permit type for the 9AM-5PM timeframe is shown in Figure 33. The total illegal vehicle-hours against all vehicle-hours for each permit results in a percent illegal value, which is displayed in Table 65.

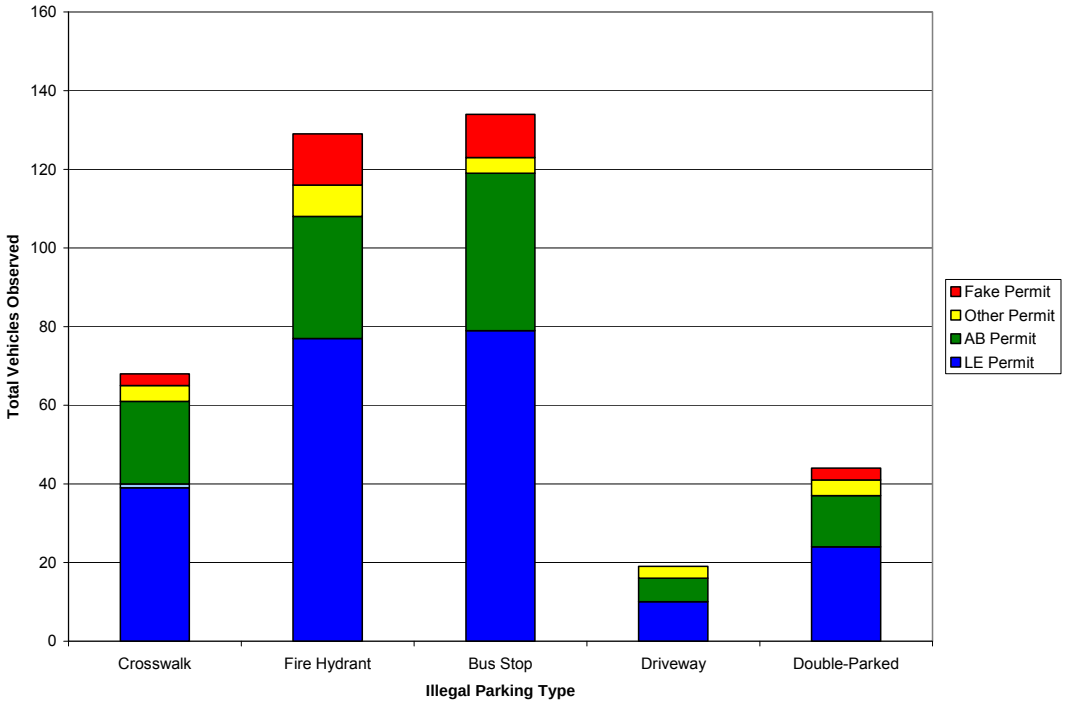

Figure 33 - CCC Illegally Parked Permit Vehicles (9AM-5PM)

	Illegal Vehicle-Hours	Total Vehicle-Hours	% Illegal
LE Permit	670	6,715	10.0%
AB Permit	373	3,165	11.8%
Other Permit	62	874	7.1%
Fake Permit	107	996	10.7%
Total	1,212	11,750	10.3%

Table 65 - CCC Illegal Permit Parking as % of All Permit Parking (9AM-5PM)

6.7.2 Financial District

Illegal parking patterns are again similar in the Financial District for the 9AM-5PM period, although the totals are significantly diminished here. Roughly 97 permitted vehicles were observed parking illegally, resulting in a total of 375 illegal vehicle-hours, 8% of all observed permit vehicle-hours. The most common offense again is parking at fire hydrants, with 48 vehicles and 190 vehicle-hours observed. LE permits account for 59% of violations, and they also have the highest illegal rate in FD, at 9%.

The total number of permit vehicles parked at the various illegal locations during this timeframe for each permit type is shown in Figure 34. The total illegal vehicle-hours against all vehicle-hours for each permit results in a percent illegal value, which is displayed in Table 66.

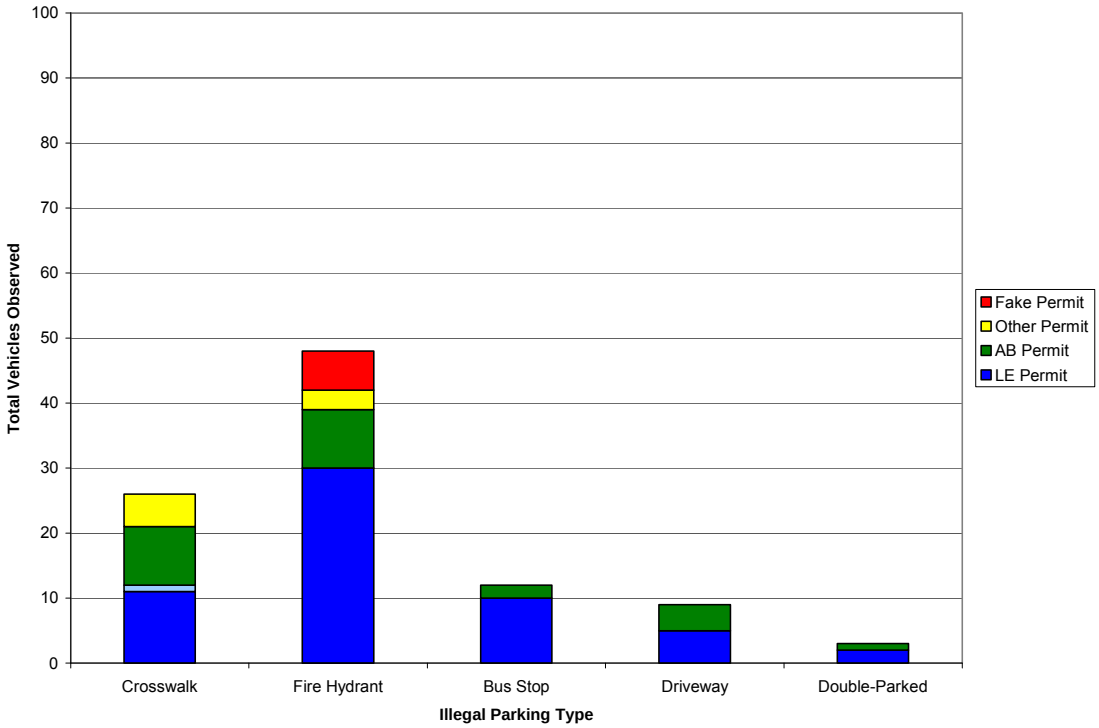

Figure 34 - FD Illegally Parked Permit Vehicles (9AM-5PM)

	Illegal Vehicle-Hours	Total Vehicle-Hours	% Illegal
LE Permit	241	2,646	9.1%
AB Permit	75	884	8.5%
Other Permit	30	400	7.5%
Fake Permit	29	521	5.6%
Total	375	4,451	8.4%

Table 66 - FD Illegal Permit Parking as % of All Permit Parking (9AM-5PM)

6.7.3 Greenwich South

Due to the small size of Greenwich South, illegal parking totals during the peak hours are likewise small. 12% of all permit parking in this area is illegal, with fake permits being the largest culprit by parking this way 29% of the time. LE permits again have the most vehicle-hours observed, making up 69% of all permit vehicles. Crosswalks are the most popular location in GS, however, containing 52% of the illegal vehicles.

The total number of permit vehicles parked at the various illegal locations for each permit type during the 9AM-5PM timeframe is shown in Figure 35. The total illegal vehicle-hours against all vehicle-hours for each permit results in a percent illegal value, which is displayed in Table 67.

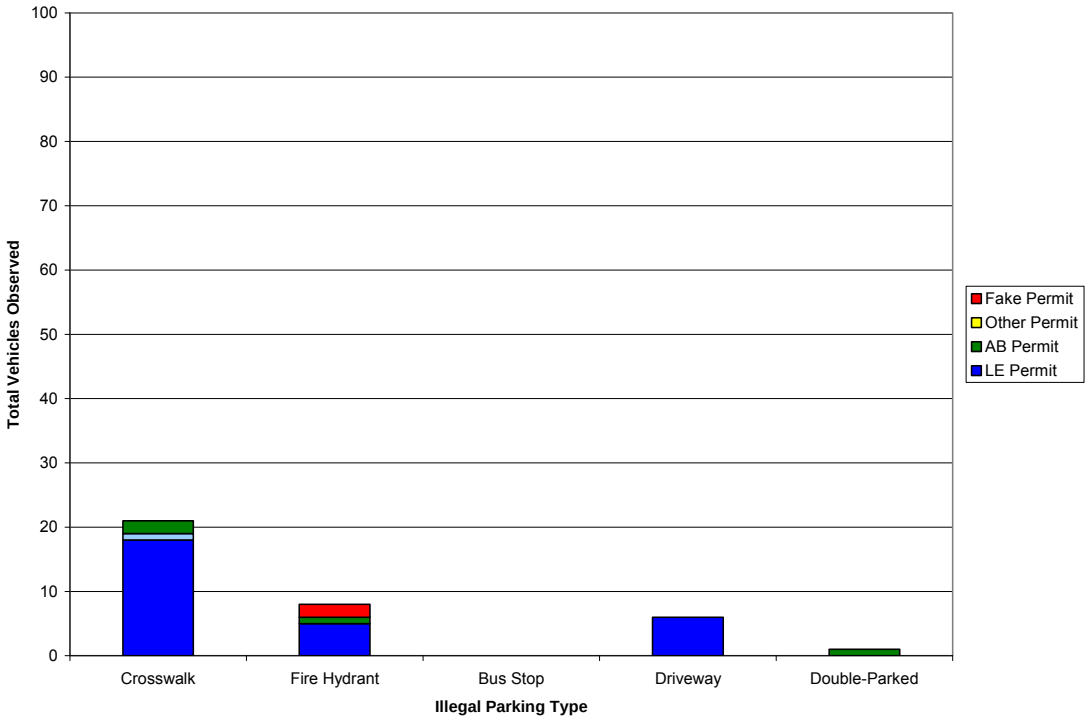

Figure 35 - GS Illegally Parked Permit Vehicles (9AM-5PM)

	Illegal Vehicle-Hours	Total Vehicle-Hours	% Illegal
LE Permit	100	787	12.7%
AB Permit	21	235	8.9%
Other Permit	0	75	0.0%
Fake Permit	15	51	29.4%
Total	136	1,148	11.8%

Table 67 - GS Illegal Permit Parking as % of All Permit Parking (9AM-5PM)

6.7.4 Battery Park City

Similar to Greenwich South, the size of Battery Park City keeps the peak period illegal parking totals small. The proportion of illegal parking to all parking for permitted vehicles, however, is higher in this sub-area then any other. 22% of all permit parking in this area is illegal, with LE permits being both the most numerous (59% of all permit vehicle-hours) and most often illegally parked (29% of the time). Bus stops are the most frequently parked in for BPC, containing 48% of the illegal vehicles. The total number of permit vehicles parked from 9AM-5PM at the various illegal locations for each permit type is shown in Figure 36. The total illegal vehicle-hours against all vehicle-hours for each permit results in a percent illegal value, which is displayed in Table 68.

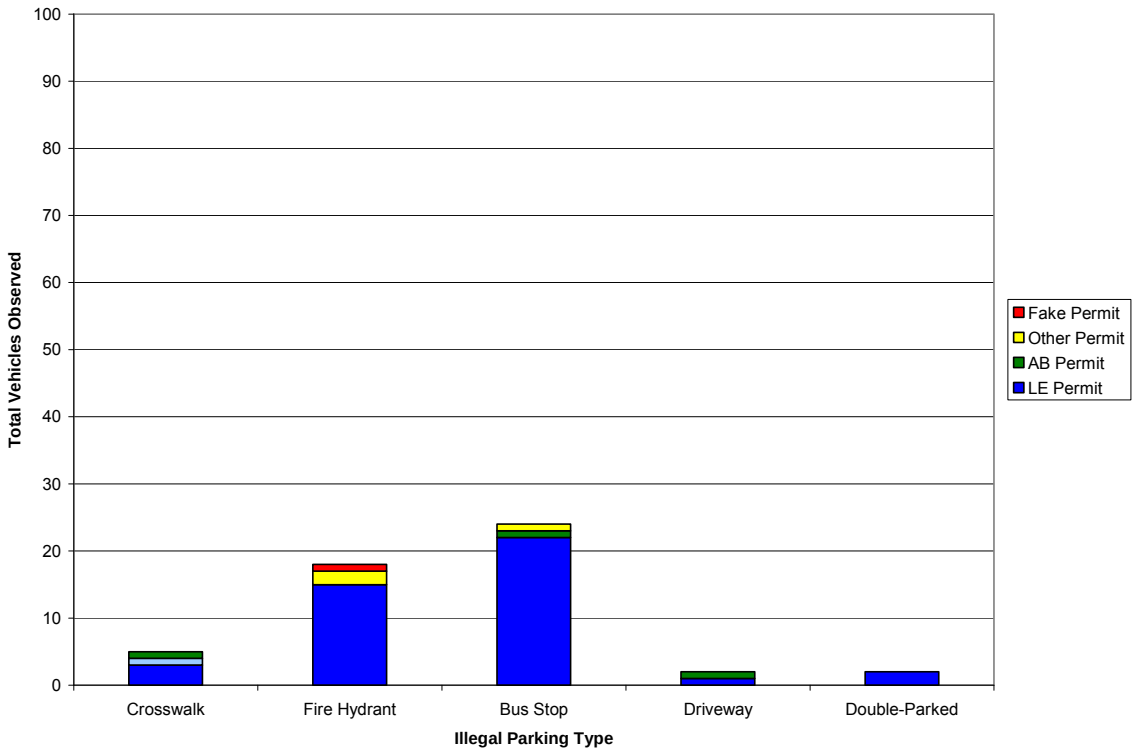

Figure 36 - BPC Illegally Parked Permit Vehicles (9AM-5PM)

	Illegal Vehicle-Hours	Total Vehicle-Hours	% Illegal
LE Permit	94	325	28.9%
AB Permit	8	74	10.8%
Other Permit	13	104	12.5%
Fake Permit	5	49	10.2%
Total	120	552	21.7%

Table 68 - BPC Illegal Permit Parking as % of All Permit Parking (9AM-5PM)

6.7.5 Tribeca

During the 9AM-5PM timeframe, 8% of all permit parking in Tribeca is illegal, with LE permits again making up the largest portion at 58% of all illegally parked permit vehicle-hours, and illegally parking at a 9% rate, the highest amongst permits. Fire hydrants are once again the most common location for illegal parking with 47% of the vehicles. The total number of permit vehicles parked at the various illegal locations during this timeframe for each permit type is shown in Figure 37. The total illegal vehicle-hours against all vehicle-hours for each permit results in a percent illegal value, which is displayed in Table 69.

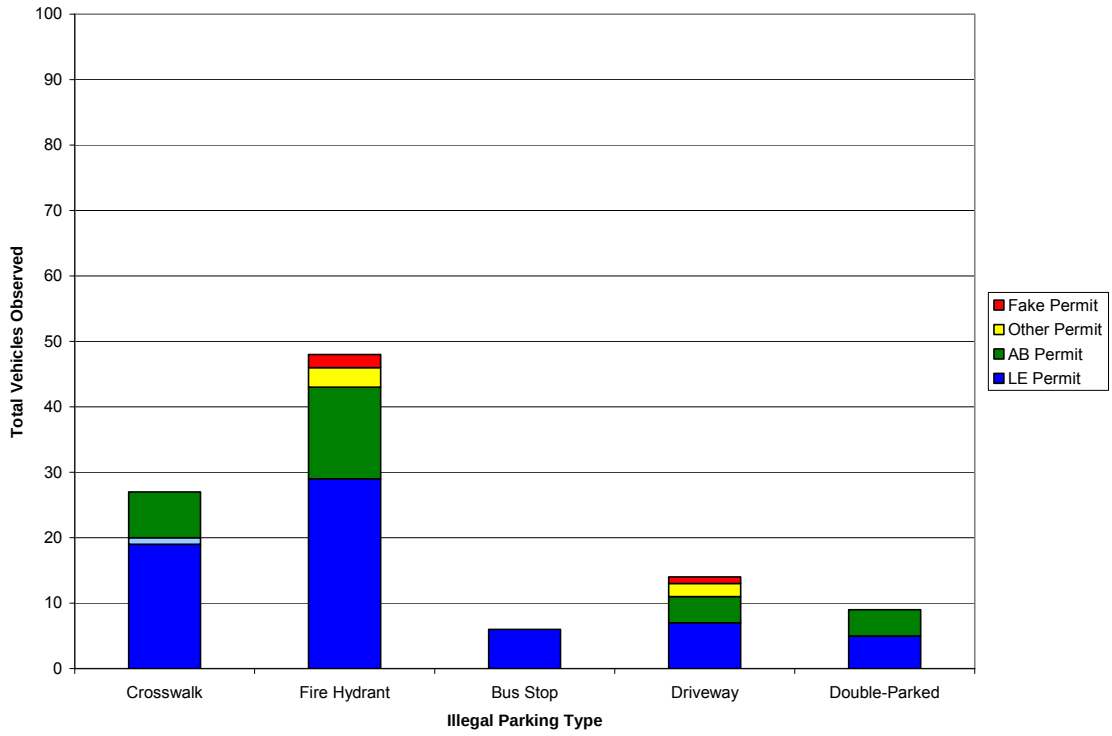

Figure 37 - TBC Illegally Parked Permit Vehicles (9AM-5PM)

	Illegal Vehicle-Hours	Total Vehicle-Hours	% Illegal
LE Permit	267	3,021	8.8%
AB Permit	120	1,447	8.3%
Other Permit	21	326	6.4%
Fake Permit	15	384	3.9%
Total	423	5,178	8.2%

Table 69 - TPC Illegal Permit Parking as % of All Permit Parking (9AM-5PM)

6.8 Meter Feeding

All metered parking regulations have two main components: a timeframe in which the regulation is in effect and an hourly limit which governs how long a vehicle may park. Hourly limits are intended to encourage turnover of the spaces so that they are available to as many vehicles as possible over the course of the day. A common practice, however, is for the vehicle owner to go out to his/her vehicle every hour (or every x hours based on the regulation limit) and continue to put money into the meter so that the vehicle remains legal. This action is known as “meter-feeding.”

Key Assumptions:

- Because meter feeding actually entails paying for the parking, it is assumed that only private and commercial vehicles should be considered here. All permit, government, emergency, and transit vehicles are legally exempt, or believe they are exempt, from having to pay to park at meters. As a result, their parking at meters, whether beyond the hourly limit or not, can not be considered meter feeding.

Maps providing an hour-by-hour breakdown of meter feeding are included in Appendix A.

Please note that there are no maps for the 7-8am and 8-9am timeframes. This is because the earliest a metered regulation begins in the study area is 8am and since the shortest hourly limit is one hour, a vehicle cannot begin meter feeding until 9am. The maps do not segregate the regulations or hourly limits, but rather display a vehicle that has stayed at least one hour beyond what the limit states.

The major objective of studying meter feeding is to understand how many vehicles are doing this and how long they are staying, both in aggregate and as a proportion of all metered parking.

In Lower Manhattan, the practice of meter-feeding is much more prevalent among private vehicles then commercial vehicles. Specifically, commercial vehicles feed the meter at about one-tenth the rate of private vehicles.

- Out of over 5,000 private vehicle-hours observed to be legally paying for parking at meters (or are assumed to be paying for parking), roughly 2,200 of them were feeding the meter for at least one hour beyond the limit. This translates into a 43% meter-feeding rate amongst private vehicle-hours in Lower Manhattan.
- Within those vehicles that feed the meter, the largest share (39%) do so for 2-3 hours, and nearly one-quarter of these vehicles meter-feed for four hours or more.

Table 70 shows the total demand by private and commercial vehicles at active metered regulations, and the amount of that demand in which those vehicles stay beyond the allowed hourly limit (meter feeding).

	Private		Commercial	
	Vehicles	Vehicle-Hours	Vehicles	Vehicle-Hours
Parked at Active Meters	1,962	5,106	347	670
Parked at Active Meters beyond Limit	842	2,213	88	224
% meter-feeding	42.9%	43.3%	25.4%	33.4%

Table 70 – LM Private and Commercial Vehicles: Meter Feeding vs. Meter Parking

Since private vehicles feed the meter at a much higher rate then commercial vehicles, further analysis was performed to understand the breakdown of how far private vehicles were going over the hourly limit. This provides insight into whether these vehicles simply need another hour or two at a meter, or if they are consistently feeding the meter all day. Figure 38 displays this duration of stays for meter-feeding private vehicles.

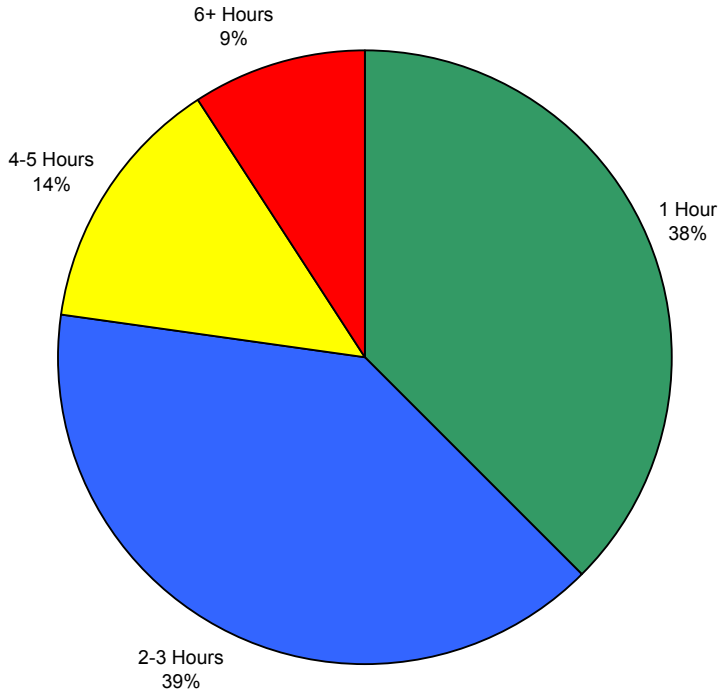

Figure 38 – LM Relative Share of Meter-Feeding Duration for Private Vehicles

6.8.1 Chinatown/Civic Center

Just as with Lower Manhattan as a whole, 42% of legally parked private vehicle-hours In Chinatown/Civic Center went beyond the hourly limit, and thus the vehicle that was parked there was deemed to be feeding the meter at least once. Of the vehicles that do this, 40% are there for only one additional hour, while 21% feed the meter for at least four hours.

Table 71 shows the total demand by private and commercial vehicles at active metered regulations, and the amount of that demand in which those vehicles stay beyond the allowed hourly limit (meter feeding). Figure 39 displays the duration of stays beyond the hourly limit for meter-feeding private vehicles. Maps 53-64 in the Chinatown/Civic Center portion of Appendix A give an hour-by-hour display of where these vehicles are located.

	Private		Commercial	
	Vehicles	Vehicle-Hours	Vehicles	Vehicle-Hours
Parked at Active Meters	1263	2875	213	406
Parked at Active Meters beyond Limit	495	1216	55	139
% meter-feeding	39.2%	42.3%	25.8%	34.2%

Table 71 - CCC Private and Commercial Vehicles: Meter Feeding vs. Meter Parking

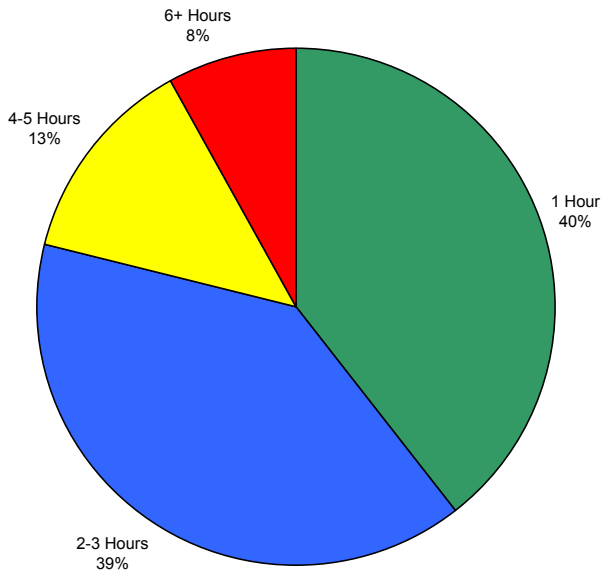

Figure 39 - CCC Relative Share of Meter-Feeding Duration for Private Vehicles

6.8.2 Financial District

38% of private vehicle-hours parked at meters in the Financial District were in violation of the hourly limit that was in place with the metered regulation. 43% of these vehicles feed the meter for 2-3 hours, while 27% do so for four hours or more.

Table 72 shows the total demand by private and commercial vehicles at active metered regulations, and the amount of that demand in which those vehicles stay beyond the allowed hourly limit (meter feeding). Figure 40 displays the duration of stays beyond the hourly limit for meter-feeding private vehicles. Maps 53-64 in the Financial District portion of Appendix A give an hour-by-hour display of where these vehicles are located.

	Private		Commercial	
	Vehicles	Vehicle-Hours	Vehicles	Vehicle-Hours
Parked at Active Meters	274	718	74	136
Parked at Active Meters beyond Limit	89	273	12	33
% meter-feeding	32.5%	38.0%	16.2%	24.3%

Table 72 - FD Private & Commercial Vehicles: Meter Feeding vs. Meter Parking

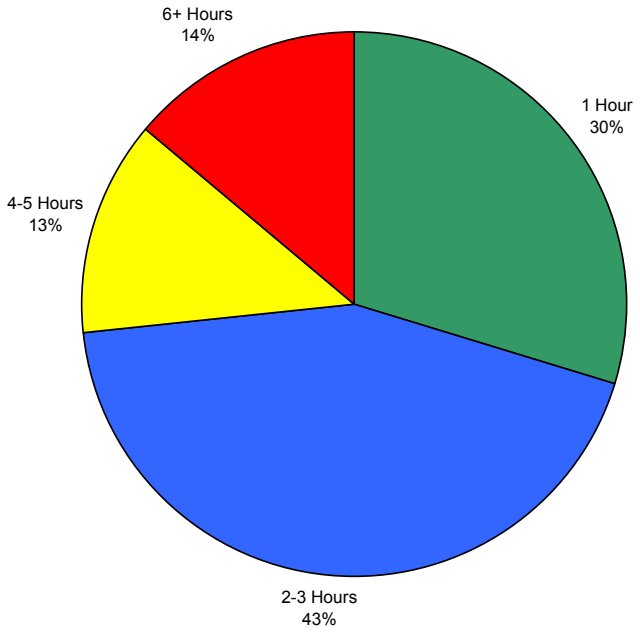

Figure 40 - FD Relative Share of Meter-Feeding Duration for Private Vehicles

6.8.3 Greenwich South

In Greenwich South, only 127 vehicle-hours were noted as meeting the requirements of meter-feeding. However, this represented 55% of all private vehicle-hours observed at meters, and more than half of these fed the meter for a substantial amount of time, or at least four hours. Worth noting is that only six commercial vehicles were observed parking at meters at all in GS, and none of them went beyond the limit.

Table 73 shows the total demand by private and commercial vehicles at active metered regulations, and the amount of that demand in which those vehicles stay beyond the allowed hourly limit (meter feeding). Figure 41 displays the duration of stays beyond the hourly limit for meter-feeding private vehicles. Maps 53-64 in the GS-BPC-TBC portion of Appendix A give an hour-by-hour display of where these vehicles are located.

	Private		Commercial	
	Vehicles	Vehicle-Hours	Vehicles	Vehicle-Hours
Parked at Active Meters	55	232	6	6
Parked at Active Meters beyond Limit	33	127	0	0
% meter-feeding	60.0%	54.7%	0.0%	0.0%

Table 73 - GS Private and Commercial Vehicles: Meter Feeding vs. Meter Parking

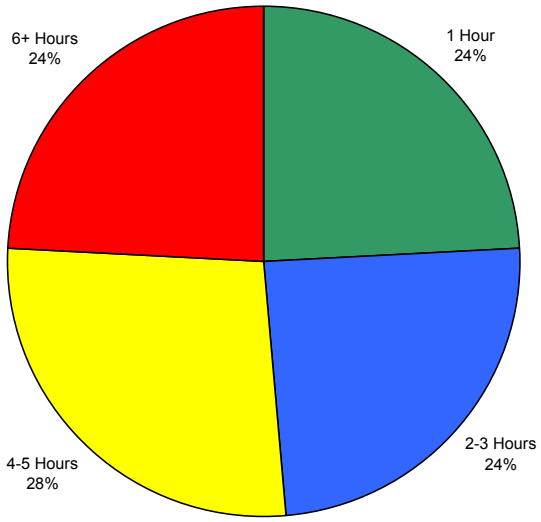

Figure 41 - GS Relative Share of Meter-Feeding Duration for Private Vehicles

6.8.4 Battery Park City

Only six private vehicles were observed parked at meters in Battery Park City. However, they parked for a total of 36 vehicle-hours, exactly half of which is categorized as meter feeding. 70% of those vehicle-hours were 2-3 hours beyond the limit.

Table 74 shows the total demand by private and commercial vehicles at active metered regulations, and the amount of that demand in which those vehicles stay beyond the allowed hourly limit (meter feeding). Figure 42 displays the duration of stays beyond the hourly limit for meter-feeding private vehicles. Maps 53-64 in the GS-BPC-TBC portion of Appendix A give an hour-by-hour display of where these vehicles are located.

	Private		Commercial	
	Vehicles	**Vehicle-Hours**	**Vehicles**	**Vehicle-Hours**
Parked at Active Meters	6	36	7	16
Parked at Active Meters beyond Limit	6	18	4	6
% meter-feeding	100.0%	50.0%	57.1%	37.5%

Table 74 - BPC Private and Commercial Vehicles: Meter Feeding vs. Meter Parking

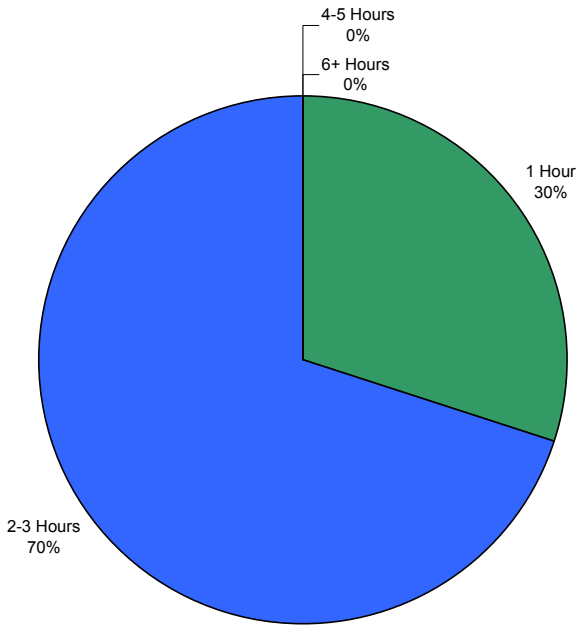

Figure 42 - BPC Relative Share of Meter-Feeding Duration for Private Vehicles

6.8.5 Tribeca

Tribeca has a substantial amount of metered supply, and of the over 1,200 vehicle-hours observed parking there, 47% were feeding the meter. The 1-hour and 2-3 hour groups both represent a 39% share of vehicles feeding the meter. Tribeca is also home to the largest amount of relative commercial meter feeding. While small compared to private vehicles, 46 out of 106 vehicle-hours (43%) were deemed to be in the process of feeding the meter.

Table 75 shows the total demand by private and commercial vehicles at active metered regulations, and the amount of that demand in which those vehicles stay beyond the allowed hourly limit (meter feeding). Figure 43 displays the duration of stays beyond the hourly limit for meter-feeding private vehicles. Maps 53-64 in the GS-BPC-TBC portion of Appendix A give an hour-by-hour display of where these vehicles are located.

	Private		Commercial	
	Vehicles	**Vehicle-Hours**	**Vehicles**	**Vehicle-Hours**
Parked at Active Meters	364	1245	47	106
Parked at Active Meters beyond Limit	219	579	17	46
% meter-feeding	60.2%	46.5%	36.2%	43.4%

Table 75 - TBC Private and Commercial Vehicles: Meter Feeding vs. Meter Parking

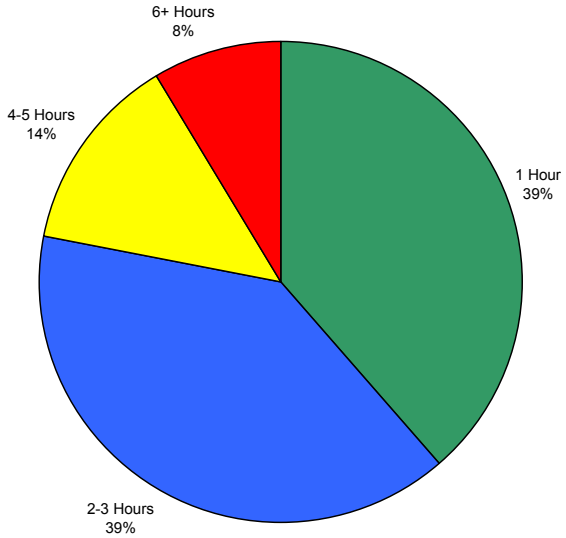

Figure 43 - TBC Relative Share of Meter-Feeding Duration for Private Vehicles

6.9 Overnight Parking

Overnight parking is important as it demonstrates the impact of residential parking in a neighborhood. It can also show where permitted government vehicles that are meant for official business are being left overnight near an agency headquarters or job site.

The data was analyzed to see which vehicles were parked at the end of Day 1 (8-9pm) and were in the same location at the start of Day 2 (7-8am). If vehicles were parked in this manner, it was assumed that they were parked overnight and they were classified as such. Assumptions must be made that the number of overnight vehicles is actually higher in reality than what is displayed here. This is due to vehicles that arrived after the study ended on Day 1 and/or departed before the study began on Day 2. Any vehicles doing this cannot be included in these numbers.

Additionally, there are some occasions where more or less vehicles were observed on a block at the end of Day 1 versus the start of Day 2. This sometimes meant that a vehicle may not have been observed in the same parking space for the two timeframes, although the vehicle most likely did not move at all overnight. Every effort was made to capture this based on license plate data, although it is possible that some was not included.

Within Lower Manhattan, a total of 515 vehicles met the requirements for overnight parking. Over half of these are private vehicles, while a little more than one-quarter are AB/LE permits. Table 76 shows the breakdown of overnight parkers by general user group in LM.

Vehicle Type	Total Vehicles	% of Total
AB Permit	72	14.0%
LE Permit	68	13.2%
Fake Permit	13	2.5%
Commercial	13	2.5%
Private	284	55.1%
All Others	65	12.6%
Total	515	100.0%

Table 76 – LM Total Vehicles by User Group Parking Overnight

6.9.1 Chinatown/Civic Center

Nearly half of all Lower Manhattan's overnight vehicles were observed in Chinatown/Civic Center. Of these, approximately two-thirds were private vehicles and 28% were AB/LE permitted. The large majority of the overnight vehicles were observed in the residential areas in the eastern portions of the sub-area. Table 77 shows the breakdown of overnight parkers by general user group in CCC. Map 65 in the Chinatown/Civic Center section of Appendix A shows where overnight parking is occurring in the sub-area.

Vehicle Type	Total Vehicles	% of Total
AB Permit	38	15.0%
LE Permit	32	12.6%
Fake Permit	4	1.6%
Commercial	5	2.0%
Private	158	62.2%
All Others	17	6.7%
Total	254	100.0%

Table 77 - CCC Total Vehicles by User Group Parking Overnight

6.9.2 Financial District

About 15% of the observed overnight vehicles were found in the Financial District. 40% of these belonged to the private vehicle user group, while roughly one-third belonged to the "all others" category, meaning it likely was not permitted, private, or commercial. Table 78 shows the breakdown of overnight parkers by general user group in FD. Map 65 in the Financial District section of Appendix A shows where overnight parking is occurring in the sub-area.

Vehicle Type	Total Vehicles	% of Total
AB Permit	8	10.5%
LE Permit	9	11.8%
Fake Permit	4	5.3%
Commercial	0	0.0%
Private	30	39.5%
All Others	25	32.9%
Total	76	100.0%

Table 78 - FD Total Vehicles by User Group Parking Overnight

6.9.3 Greenwich South

Greenwich South contained only 2% of the overnight parking demand in Lower Manhattan. Two-thirds of these vehicles (8 in total) were LE permitted and one-quarter (3 in total) were private vehicles. Table 79 shows the breakdown of overnight parkers by general user group in GS. Map 65 in the GS-BPC-TBC section of Appendix A shows where overnight parking is occurring in the sub-area.

Vehicle Type	Total Vehicles	% of Total
AB Permit	0	0.0%
LE Permit	8	66.7%
Fake Permit	0	0.0%
Commercial	0	0.0%
Private	3	25.0%
All Others	1	8.3%
Total	12	100.0%

Table 79 - GS Total Vehicles by User Group Parking Overnight

6.9.4 Battery Park City

Approximately 13% of overnight vehicles were found in Battery Park City. Private vehicles accounted for nearly all of these, with a 91% share. Table 80 shows the breakdown of overnight parkers by general user group in BPC. Map 65 in the GS-BPC-TBC section of Appendix A shows where overnight parking is occurring in the sub-area.

Vehicle Type	Total Vehicles	% of Total
AB Permit	0	0.0%
LE Permit	4	6.2%
Fake Permit	0	0.0%
Commercial	0	0.0%
Private	59	90.8%
All Others	2	3.1%
Total	65	100.0%

Table 80 - BPC Total Vehicles by User Group Parking Overnight

6.9.5 Tribeca

Tribeca is second only to CCC with respect to total numbers of observed overnight parking. 108 vehicles, or 21% of the LM total, were found here. 38% of these vehicles were AB/LE permitted and 32% were private. Table 81 shows the breakdown of overnight parkers by general user group in TBC. Map 65 in the GS-BPC-TBC section of Appendix A shows where overnight parking is occurring in the sub-area.

Vehicle Type	Total Vehicles	% of Total
AB Permit	26	24.1%
LE Permit	15	13.9%
Fake Permit	5	4.6%
Commercial	8	7.4%
Private	34	31.5%
All Others	20	18.5%
Total	108	100.0%

Table 81 - TBC Total Vehicles by User Group Parking Overnight

6.10 Sidewalk Parking

Some areas within Lower Manhattan experience extreme parking shortages, which results in permit vehicles parking on sidewalks. This is most noticeable on some streets in the Chinatown/Civic Center sub-area. While this activity has been happening for some time and is not enforced, it remains illegal and dangerous. A parked car on the sidewalk impedes pedestrian flow, while the action of pulling a car onto the sidewalk poses a clear threat to the safety of any person who happens to be walking by at the time.

Due to the complexities of trying to collect this information and represent it in various ways, data was not collected for any vehicles that were observed on sidewalks. However, notes were taken of all blockfaces that were observed under this condition. Nearly all vehicles that park in this manner are assumed to possess AB and LE permits

This type of parking is nearly exclusive to the Chinatown/Civic Center sub-area. The following streets are examples of areas that experience at least some amount of sidewalk-parking:

- Baxter Street (near courthouses);
- Elizabeth Street (near police precinct);
- Bowery (near Manhattan Bridge); and
- Frankfort/Dover Streets (under Brooklyn Bridge)

Figure 44 - Sidewalk Parking under Brooklyn Bridge

6.11 Secure Area Parking

In the Chinatown/Civic Center and Financial District sub-areas, there are a number of blocks that have been closed to traffic and public parking, mostly for security reasons. These areas, as a result, have become off-street parking lots for permit parkers, particularly law enforcement vehicles.

The largest area in which this has occurred is the blocks in the immediate vicinity of One Police Plaza and the courthouses. These blocks have been closed to the public since 2001, and they include Park Row, Pearl St, Av of the Finest, and the ramp from the inbound Brooklyn Bridge to Park Row NB. Other secure areas include the Federal Plaza on Duane Street and the NY Stock Exchange Security Area. Due to security concerns, and since the area is no longer considered on-street parking, these few blocks were not included in the survey.

Figure 45 is an aerial photo of the Brooklyn Bridge taken from the Municipal Building. This photo shows the extent of “off-street” parking for authorized vehicles only on the closed ramp from the Brooklyn Bridge to Park Row NB. The ramp runs top to bottom at the center of the photo.

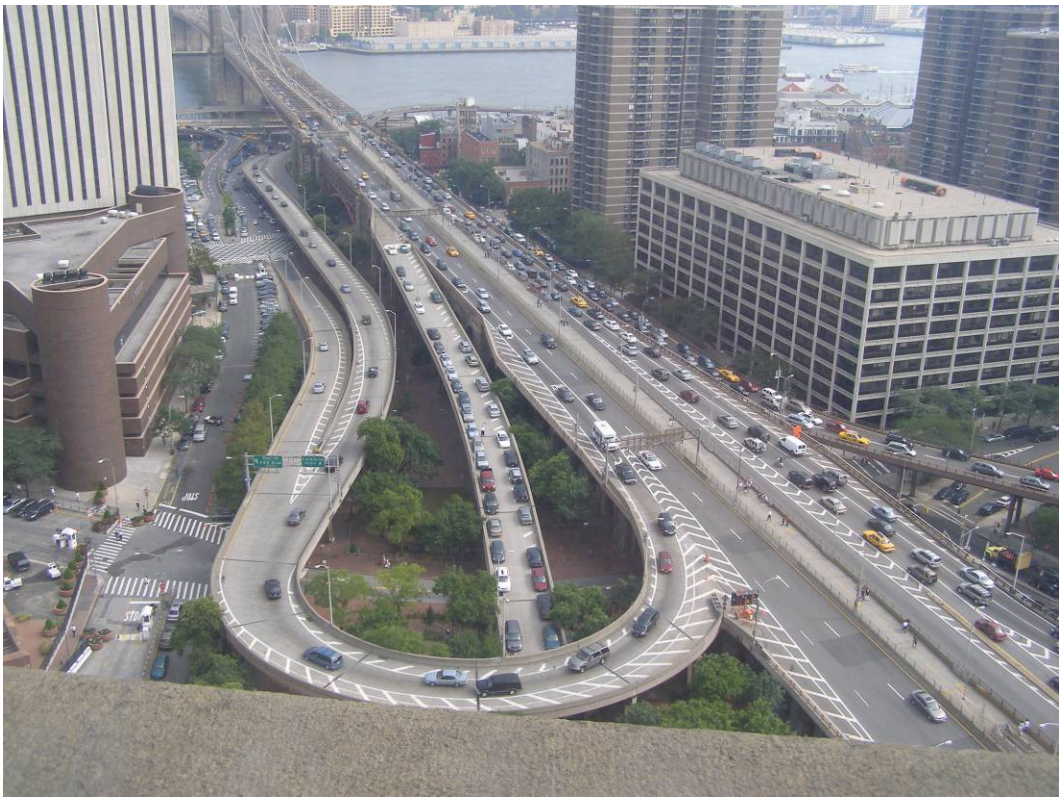

Figure 45 - Aerial Image of Law Enforcement Parking on the closed Brooklyn Bridge ramp

6.12 Continuing Enforcement Efforts

After the completion of the data collection phase of the study, the following new enforcement and changes in policy, which affected agency placard parking in Lower Manhattan, were implemented.

- In February 2007, NYPD eliminated agency vehicles and commuter vehicle parking parked on the Brooklyn Bridge ramp.
- In Spring 2007, the Lower Manhattan Construction Command Center (LMCCC), which has the responsibility of coordination and general oversight of all Lower Manhattan construction projects, started an enforcement task force. This task force consists of representatives from the Dept of Transportation, Dept of Buildings and the NYPD-Traffic Division, as well as others. This task force is charged with enforcement in and around construction sites. Daily meetings are held to identify construction hot spots to receive targeted enforcement.
- NYPD-Traffic, in particular, has been enforcing construction-related curbside regulation compliance. At construction sites, applicable curbside regulations are typically changed to 'No Standing Anytime – Construction Zone' to facilitate construction activity, NYPD has supported the changes through a variety of enforcement efforts. At locations where parking by authorized agency vehicles is affected, these efforts have included:
    - Educating agency personnel on the rights of their placard and where they can and cannot park;
    - Issuing warnings to offending agency vehicles;
    - And then, when the other efforts have failed, ticketing and towing offending agency vehicles
    - This has been effective in the Fulton Street corridor, where the MTA is building the Fulton Transit Hub and the City is doing watermain and street reconstruction.
- Also, the NYPD 5th precinct in Chinatown, has repeatedly ticketed and towed illegally parked agency vehicles in the historic core of Chinatown. This effort has been sustained for the past year.

These activities have helped mitigate some of the congestion and parking problems in these small zones. However, the overall problem of agency vehicle parking in Lower Manhattan is still on-going and requires a larger policy and enforcement initiative.

7 Conclusion

7.1 Value of the Study

Parking in Lower Manhattan is a challenge for public citizens, law enforcement officials, agency staff, and delivery people. This study has shed considerable light on what is happening in Lower Manhattan and has brought quantitative information to illuminate a range of behaviors prevalent when demand far exceeds supply. To this end, the large volume of data yielded by the study will inform policy making considerably in this arena.

7.2 The Challenge of Parking

Because of saturated parking in Lower Manhattan, during midday, there typically are no available legal spaces for most drivers coming to LM. As a result, drivers park where they can. Placard parkers may park in areas intended for others. If one is at the top of the permit hierarchy with an LE or AB permit, one can legally park in the spaces intended for commercial vehicles or the general public as well as in No Parking areas. This happens frequently, largely filling up the commercial vehicle loading zones and any general or metered spaces not already occupied by the public.

When these spaces are taken, drivers will park in the significant numbers of No Standing spaces, or at dangerous (illegal) spaces, such as crosswalks, fire hydrants, bus stops, or sidewalks. The consequences for this behavior do not appear to be clear to the permit holders or manifest within the study data (as it is ubiquitous). Commercial vehicles will double-park, often staying briefly to make their delivery. If staying longer, some commercial drivers, like the general public, will risk parking in areas reserved for agency parking or other areas that are illegal to them.

7.3 Unmet Demand

Of the four main groups (LE, AB, Commercial, Private), public peak hour demand is the largest at 36%, reflecting the strong demand for parking. Following the public, LE occupies an unusually large share of the demand (25%), and by virtue of their permit privileges, seriously dominates the parking supply of others.

Because others higher up the parking hierarchy are taking spaces intended for the general public, the public's available supply is significantly reduced. The loss of public parking may contribute to the use of illegal parking by private vehicles in agency/commercial spaces.

Because the parking supply is so tight, large quantities of always illegal spaces (No Standing, No Stopping – "I2" in this report) are used by everyone, but especially by LE and AB permits. The disequilibrium between demand and supply of spaces in general leads to dangerous and illegal parking (in crosswalks, in front of fire hydrants, at bus stops – designated "I1" in the report) by LE and AB permits (typically 1 in 8 of these permits are parked this way).

Commercial vehicle demand is observed to be relatively small (12%). This may be because such "parking" is generally of too short duration (< 1hr) to have been captured in a parking study in a reasonably efficient way. While the share of the curb signed for commercial use (No Standing except Trucks loading and unloading) is 3.5 times greater than their demonstrated demand, according to the criteria set out in this study, they still do not have spaces to park near their destinations as those spaces have been expropriated

by others who have parked on a longer term basis: LE & AB (legally), and Private (illegally).

One of the noteworthy observations of the study is that AB demand is likewise relatively small (approximately 11%). While that may be encouraging, those agencies that have dedicated, agency-specific spaces usually do not have enough (demand exceeds supply regardless of where they park).

The under-supply is exacerbated by others frequently parking in spaces dedicated to these users, obliging the first permit holders to park in other users' spots (this causes a waterfall of demand, as described above). In general, overall AB demand is actually less than the available designated AB supply (all agencies combined).

7.4 Legal by the Rules

Much of the demonstrated "problem" is caused by the rules that allow LE and AB permits to park in "others" spaces. While these rules may work in other areas of the city, because of the concentration of LE and agency offices in LM, they overwhelm the general and commercial supply. Special exemptions to curb-space, such as the no-permit area, do not appear to be working as the prevalence of LE and AB permits still remains high.

A significant portion of the demand, particularly LE demand, but also that of AB, is from private vehicles displaying placards (93% of LE permits, 60% of AB permits). Further investigation determined that less than half of the DOT-issued AB and LE permits are displayed in the vehicles to which the permit is registered. Because it is difficult to tell if a permit is counterfeit, we don't know if these are appropriately transferred from one vehicle to another, or if they are copies produced for the benefit of employees, officers, and staff.

Getting to the bottom of this question may warrant a more detailed field inspection of permits by APU staff to get a better handle on this. Because LE permits are issued by the police agencies themselves, there are few ways of ascertaining the legitimacy of these permits, nor of controlling the supply.

7.5 Illegality

Fake permits are a noteworthy phenomenon: they appear to constitute 9% of all permits. Also noteworthy is that while there appear to be few counterfeits (a difficult determination for our data collectors to make with 100% accuracy) there are a great deal of pseudo placards, signs, letters, and other devices.

While those displaying fake permits runs the risk of arrest if they are imitating LE permits, it may be assumed that an enforcement agent will not necessarily ticket them or otherwise flag them. The large variety of LE permits issued lends uncertainty to the process of determining the legitimacy of a particular permit. It is unknown what the consequences are to enforcement officials for making an error involving a real permit, but one assumes that the risk is not worth taking in most cases.

Indeed, while there may be ambiguity in knowing whether a permit is real or a copy, the larger challenge is one of issuing tickets to persons displaying various "friends of the government" pseudo placards (e.g., union issued placards, or school issued street permits to teachers)

Meter feeding is prevalent, though not necessarily for the entire day, and is done more by private than by commercial vehicles. It is unknown to what degree rules relating to meter feeding are enforced. The historical technique is to chalk the tire and come back an hour

later. A more modern version could be to "swipe" all the registrations on a block of meters into the handheld parking device currently in use, come back an hour later, swipe them again and ticket those with a match. It is not known if either of these practices is occurring.

Exceeding the 3-hour by AB permits is also a distinct problem. The general free-for-all and often illegal parking observed, suggests that there may be a pervasive lack of enforcement, particularly for placard users vehicles.

It must be assumed that because we are able to observe sizable shares of the parking population (10-20%) exercising a considerable number of first and second order illegal behaviors, that enforcement is not pervasive, is differentially applied to the general public versus those holding AB and LE permits, or is non-binding (for the permit holders).

7.6 Actions

On January 3, 2008, Mayor Michael Bloomberg announced a comprehensive program to reduce the number and misuse of government parking placards. This effort is part of the City's efforts to reduce traffic congestion, decrease the City's carbon footprint, encourage the use of public transportation, and reduce the demand for curbside parking in connection with City business. The placard parking reduction program includes:

- Reduction by 20% of the number of parking placards for each city Agency;
- Centralization of the issuance of parking placards to only the Police Department (NYPD) and the Department of Transportation (DOT);
- The creation of a new NYPD enforcement unit to ensure compliance and agencies will develop enforcement procedures to prevent the abuse of placards; and
- The creation of a new inter-agency working group which will implement and coordinate the various measures being taken and take additional actions, including a review of existing agency parking space allocations and on-street parking regulations.

This shift in policy will enable the complete study and analysis of the re-allocation of on-street parking regulations for Lower Manhattan.

Appendix A

Maps for Placard Parking Report (see Appendix A document)

Appendix B

7AM-9PM Data Tables

Contents

B1 Supply vs. Demand

User Group	Designated Space-Hours	Utilized Vehicle-Hours	Occupancy
LE Permit	9,389	19,694	209.8%
AB Permit	11,002	8,547	77.7%
LE & AB Permits Total	*20,391*	*28,241*	*138.5%*
Commercial	39,737	10,559	26.6%
General Public (meters/unregulated)	40,166	35,430	88.2%
Buses	1,131	229	20.3%
Taxis	2,499	2,857	114.3%
Govt (no permit)	0	2,039	n/a
Other Permit	0	2,688	n/a
Fake Permit	0	3,048	n/a
Other	323	795	246.1%
TOTAL	104,246	85,886	82.4%

Table 1 - LM Comparative Occupancy across User Groups (7AM-9PM)

User Group	Designated Space-Hours	Utilized Vehicle-Hours	Occupancy
LE Permit	4,662	9,864	211.6%
AB Permit	5,672	4,745	83.7%
LE & AB Permits Total	*10.337*	*14,609*	*141.4%*
Commercial	15,340	4,139	27.0%
General Public (meters/unregulated)	23,443	17,989	76.7%
Buses	342	158	46.2%
Taxis	45	1,117	2493.3%
Govt (no permit)	0	711	n/a
Other Permit	0	1,289	n/a
Fake Permits	0	1,474	n/a
Other	73	505	695.6%
TOTAL	49,577	41,991	84.7%

Table 2 - CCC Comparative Occupancy across User Groups (7AM-9PM)

User Group	Designated Space-Hours	Utilized Vehicle-Hours	Occupancy
LE Permit	1,676	3,641	217.2%
AB Permit	2,664	1,271	47.7%
LE & AB Permits Total	*4,340*	*4,912*	*113.2%*
Commercial	12,558	3,410	27.2%
General Public (meters/unregulated)	5,025	4,725	94.0%
Buses	312	33	10.6%
Taxis	1,472	877	59.6%
Govt (no permit)	0	688	n/a
Other Permit	0	573	n/a
Fake Permit	0	785	n/a
Other	115	179	156.2%
TOTAL	23,822	16,182	67.9%

Table 3 - FD Comparative Occupancy across User Groups (7AM-9PM)

User Group	Designated Space-Hours	Utilized Vehicle-Hours	Occupancy
LE Permit	1,144	1,164	101.7%
AB Permit	820	336	41.0%
LE & AB Permits Total	*1,964*	*1,500*	*76.4%*
Commercial	913	244	26.7%
General Public (meters/unregulated)	934	821	87.9
Buses	129	3	2.3%
Taxis	106	24	22.7%
Govt (no permit)	0	73	n/a
Other Permit	0	112	n/a
Fake Permit	0	78	n/a
Other	0	0	n/a
TOTAL	4,047	2,855	70.6%

Table 4 - GS Comparative Occupancy across User Groups (7AM-9PM)

User Group	Designated Space-Hours	Utilized Vehicle-Hours	Occupancy
LE Permit	225	445	197.6%
AB Permit	55	116	212.8%
LE & AB Permits Total	*280*	*561*	*200.6%*
Commercial	945	403	42.6%
General Public (meters/unregulated)	3,400	5,611	165.0%
Buses	272	31	11.4%
Taxis	426	374	87.9%
Govt (no permit)	0	43	n/a
Other Permit	0	197	n/a
Fake Permit	0	82	n/a
Other	136	10	7.4%
TOTAL	5,458	7,312	134.0%

Table 5 - BPC Comparative Occupancy across User Groups (7AM-9PM)

User Group	Designated Space-Hours	Utilized Vehicle-Hours	Occupancy
LE Permit	1,681	4,580	272.5%
AB Permit	1,792	2,079	116.0%
LE & AB Permits Total	*3,473*	*6,659*	*191.8%*
Commercial	9,980	2,363	23.7%
General Public (meters/unregulated)	10,135	6,284	62.0%
Buses	75	4	5.3%
Taxis	451	465	103.2%
Govt (no permit)	0	524	n/a
Other Permit	0	517	n/a
Fake Permit	0	629	n/a
Other	0	101	n/a
TOTAL	24,113	17,546	72.8%

Table 6 - TBC Comparative Occupancy across User Groups (7AM-9PM)

B2 Who Is Parked Where

User Group	Authorized	Commercial	Bus	Taxi	Meter	No Parking	No Standing No Stopping	Other	Illegal	Unregulated	% of All Vehicle Types
AB Permits	29%	23%	2%	0%	6%	12%	14%	0%	10%	3%	10%
Fake Permits	25%	16%	3%	0%	4%	20%	17%	0%	8%	8%	4%
Commercial	5%	42%	4%	1%	5%	11%	15%	0%	13%	4%	12%
Government	25%	23%	1%	3%	5%	10%	17%	0%	10%	7%	2%
LE Permits	26%	23%	2%	1%	4%	12%	19%	1%	9%	2%	23%
Other	4%	11%	6%	0%	15%	12%	14%	0%	12%	26%	0%
Private	5%	9%	2%	1%	11%	13%	13%	0%	10%	37%	41%
Other Permits	23%	24%	1%	0%	11%	16%	10%	0%	6%	8%	3%
Transit	4%	8%	28%	0%	5%	4%	20%	0%	31%	0%	0%
Taxi	7%	11%	2%	15%	7%	7%	17%	0%	19%	15%	3%
Incongruous	28%	27%	2%	1%	0%	12%	19%	0%	10%	0%	0%
% of All Reg Types	14%	19%	2%	1%	8%	13%	15%	0%	10%	18%	100%

Table 7 - LM Matrix of Vehicle-Hours by User Group Parked in the Major Regulation Types (7AM-9PM)

User Group	Authorized	Commercial	Bus	Taxi	Meter	No Parking	No Standing No Stopping	Other	Illegal	Unregulated	% of All Vehicle Types
AB Permits	30%	17%	3%	0%	10%	12%	12%	0%	11%	5%	11%
Fake Permits	27%	12%	3%	0%	3%	17%	10%	1%	9%	17%	4%
Commercial	2%	39%	7%	0%	8%	10%	12%	0%	13%	8%	10%
Government	32%	17%	1%	0%	10%	2%	18%	0%	11%	9%	2%
LE Permits	29%	21%	2%	0%	4%	9%	21%	1%	9%	3%	23%
Other	5%	11%	6%	0%	17%	13%	9%	0%	10%	29%	1%
Private	4%	7%	2%	0%	13%	12%	8%	0%	9%	46%	43%
Other Permits	20%	28%	2%	0%	15%	12%	8%	0%	7%	9%	3%
Transit	4%	6%	28%	0%	7%	6%	15%	0%	34%	0%	0%
Taxi	8%	4%	2%	0%	9%	9%	10%	0%	18%	41%	3%
Incongruous	18%	38%	6%	0%	1%	7%	9%	0%	18%	2%	0%
% of All Reg Types	14%	15%	3%	0%	10%	11%	12%	1%	0%	24%	100%

Table 8 - CCC Matrix of Vehicle-Hours by User Group Parked in the Major Regulation Types (7AM-9PM)

User Group	Authorized	Commercial	Bus	Taxi	Meter	No Parking	No Standing No Stopping	Other	Illegal	Unregulated	% of All Vehicle Types
AB Permits	31%	31%	0%	2%	1%	7%	20%	0%	8%	0%	8%
Fake Permits	22%	24%	0%	1%	4%	9%	36%	0%	4%	0%	5%
Commercial	7%	48%	4%	1%	4%	3%	20%	1%	13%	0%	21%
Government	20%	24%	2%	8%	1%	19%	11%	0%	9%	6%	4%
LE Permits	26%	34%	2%	3%	3%	4%	19%	0%	9%	0%	23%
Other	0%	15%	0%	0%	0%	0%	79%	0%	3%	3%	0%
Private	9%	24%	1%	2%	9%	5%	14%	1%	13%	22%	29%
Other Permits	38%	35%	1%	0%	4%	5%	11%	0%	6%	0%	4%
Transit	2%	22%	35%	0%	0%	0%	15%	0%	26%	0%	0%
Taxi	10%	16%	3%	29%	7%	2%	17%	0%	16%	0%	5%
Incongruous	41%	20%	0%	0%	0%	7%	24%	0%	8%	0%	1%
% of All Reg Types	16%	32%	2%	4%	5%	5%	18%	0%	0%	7%	100%

Table 9 - FD Matrix of Vehicle-Hours by User Group Parked in the Major Regulation Types (7AM-9PM)

User Group	Authorized	Commercial	Bus	Taxi	Meter	No Parking	Standing No	Other	Illegal	Unregulated	% of All Vehicle Types
AB Permits	35%	18%	8%	0%	5%	13%	13%	0%	8%	0%	12%
Fake Permits	50%	27%	0%	0%	0%	0%	0%	0%	23%	0%	3%
Commercial	17%	47%	1%	0%	2%	3%	21%	0%	8%	0%	9%
Government	26%	4%	0%	0%	12%	19%	19%	0%	0%	19%	3%
LE Permits	47%	6%	1%	0%	4%	7%	23%	0%	13%	0%	40%
Other	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Private	26%	8%	1%	0%	20%	11%	13%	0%	12%	10%	28%
Other Permits	36%	21%	0%	0%	3%	33%	0%	0%	0%	8%	4%
Transit	20%	0%	40%	0%	0%	0%	0%	0%	40%	0%	0%
Taxi	38%	17%	0%	0%	8%	0%	8%	0%	21%	8%	1%
Incongruous	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
% of All Reg Types	36%	13%	1%	0%	9%	9%	17%	0%	0%	4%	100%

Table 10 - GS Matrix of Vehicle-Hours by User Group Parked in the Major Regulation Types (7AM-9PM)

User Group	Authorized	Commercial	Bus	Taxi	Meter	No Parking	No Standing No Stopping	Other	Illegal	Unregulated	% of All Vehicle Types
AB Permits	0%	9%	1%	0%	9%	0%	52%	0%	8%	22%	2%
Fake Permits	0%	11%	5%	0%	12%	27%	17%	0%	9%	20%	1%
Commercial	1%	6%	11%	1%	3%	6%	44%	0%	23%	5%	6%
Government	0%	7%	0%	0%	14%	9%	53%	0%	12%	5%	1%
LE Permits	2%	14%	7%	0%	4%	6%	38%	0%	25%	4%	6%
Other	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Private	1%	4%	4%	1%	0%	18%	34%	0%	12%	27%	77%
Other Permits	0%	2%	4%	0%	4%	19%	25%	0%	8%	39%	3%
Transit	3%	3%	22%	0%	0%	0%	50%	0%	22%	0%	0%
Taxi	1%	12%	6%	19%	0%	2%	37%	0%	23%	0%	5%
Incongruous	0%	0%	0%	60%	0%	20%	20%	0%	0%	0%	0%
% of All Reg Types	1%	5%	4%	2%	1%	16%	35%	0%	0%	23%	100%

Table 11 - BPC Matrix of Vehicle-Hours by User Group Parked in the Major Regulation Types (7AM-9PM)

User Group	Authorized	Commercial	Bus	Taxi	Meter	No Parking	No Standing No Stopping	Other	Illegal	Unregulated	% of All Vehicle Types
AB Permits	24%	34%	0%	0%	2%	16%	13%	0%	9%	3%	12%
Fake Permits	21%	11%	4%	2%	4%	39%	5%	0%	4%	10%	4%
Commercial	4%	42%	0%	0%	3%	25%	7%	0%	11%	6%	13%
Government	23%	33%	1%	0%	0%	9%	19%	0%	12%	4%	3%
LE Permits	16%	25%	2%	0%	5%	26%	12%	0%	8%	5%	26%
Other	0%	0%	9%	76%	0%	0%	0%	0%	16%	0%	0%
Private	4%	11%	0%	0%	15%	20%	8%	0%	10%	32%	36%
Other Permits	21%	10%	1%	0%	13%	34%	10%	0%	6%	5%	3%
Transit	0%	0%	0%	97%	1%	0%	1%	0%	1%	0%	1%
Taxi	5%	14%	0%	0%	7%	17%	14%	0%	21%	22%	3%
Incongruous	25%	19%	0%	0%	0%	28%	28%	0%	0%	0%	1%
% of All Reg Types	15%	23%	2%	1%	9%	16%	15%	0%	10%	8%	100%

Table 12 - TBC Matrix of Vehicle-Hours by User Group Parked in the Major Regulation Types (7AM-9PM)

B3 Supply by Regulation Type

Total Supply	Total Spaces	Space-Hours
AB Permits	914	11,002
LE Permits	744	9,389
Buses	112	1,131
Commercial Vehicles	3,848	39,737
Meters	1,284	10,667
No Parking	4,302	29,619
No Standing	6,110	74,025
No Stopping	244	3,376
Other	24	323
Taxis	238	2,499
Unregulated	2,107	29,499
Total Signed Curbspace	17,820	181,767
Total w/o No Standing & No Stopping	11,466	104,366
Actual Curbspace	15,090	211,266

Table 13 - LM Parking Supply by Regulation Type (7AM-9PM)

Total Supply	Total Spaces	Space-Hours
AB Permits	450	5,672
LE Permits	376	4,662
Buses	31	342
Commercial Vehicles	1,503	15,340
Meters	654	6,181
No Parking	2,154	12,029
No Standing	1,905	21,719
No Stopping	32	451
Other	6	73
Taxis	3	45
Unregulated	1,233	17,262
Total Signed Curbspace	7,114	66,514
Total w/o No Standing & No Stopping	5,177	44,344
Actual Curbspace	5,984	83,776

Table 14 - CCC Parking Supply by Regulation Type (7AM-9PM)

Total Supply	Total Spaces	Space-Hours
AB Permits	247	2,664
LE Permits	132	1,676
Buses	32	312
Commercial Vehicles	1,197	12,558
Meters	317	1,589
No Parking	335	2,347
No Standing	2,082	25,994
No Stopping	131	1,816
Other	8	115
Taxis	163	1,472
Unregulated	245	3,436
Total Signed Curbspace	4,643	50,543
Total w/o No Standing & No Stopping	2,430	22,732
Actual Curbspace	3,856	53,979

Table 15 - FD Parking Supply by Regulation Type (7AM-9PM)

Total Supply	Total Spaces	Space-Hours
AB Permits	68	820
LE Permits	82	1,144
Buses	10	129
Commercial Vehicles	95	913
Meters	38	376
No Parking	71	845
No Standing	241	3,312
No Stopping	0	0
Other	0	0
Taxis	8	106
Unregulated	40	558
Total Signed Curbspace	613	7,646
Total w/o No Standing & No Stopping	372	4,334
Actual Curbspace	586	8,204

Table 16 - GS Parking Supply by Regulation Type (7AM-9PM)

Total Supply	Total Spaces	Space-Hours
AB Permits	5	55
LE Permits	17	225
Buses	21	272
Commercial Vehicles	74	945
Meters	58	348
No Parking	571	2,848
No Standing	785	10,532
No Stopping	44	600
Other	10	136
Taxis	30	426
Unregulated	218	3,052
Total Signed Curbspace	1,616	16,385
Total w/o No Standing & No Stopping	787	5,254
Actual Curbspace	1,388	19,437

Table 17 - BPC Parking Supply by Regulation Type (7AM-9PM)

Total Supply	Total Spaces	Space-Hours
AB Permits	144	1,792
LE Permits	136	1,681
Buses	18	75
Commercial Vehicles	980	9,980
Meters	218	2,172
No Parking	1,171	11,551
No Standing	1,097	12,468
No Stopping	36	509
Other	0	0
Taxis	33	451
Unregulated	569	7,962
Total Signed Curbspace	3,833	40,679
Total w/o No Standing & No Stopping	2,700	27,702
Actual Curbspace	3,474	48,641

Table 18 - TBC Parking Supply by Regulation Type (7AM-9PM)

B4 Total Supply by Major User Groups

User Group	Spaces			Space-Hours		
	Designated	Permitted	Total	Designated	Permitted	Total
LE Permits	744	11,915	12,659	9,389	113,475	122,863
AB Permits	914	11,915	12,830	11,002	113,475	124,477
Commercial	3,848	7,694	11,542	39,737	69,785	109,522
General Public	0	3,392	3,392	0	40,166	40,166

Table 19 - LM Parking Supply by User Group (7AM-9PM)

User Group	Spaces			Space-Hours		
	Designated	Permitted	Total	Designated	Permitted	Total
LE Permits	376	5,584	5,960	4,662	51,272	55,934
AB Permits	462	5,584	6,034	5,672	51,272	56,944
Commercial	1,503	4,041	5,544	15,340	35,472	50,812
General Public	0	1,887	1,887	0	23,443	23,443

Table 20 - CCC Parking Supply by User Group (7AM-9PM)

User Group	Spaces			Space-Hours		
	Designated	Permitted	Total	Designated	Permitted	Total
LE Permits	132	2,297	2,429	1,676	21,829	23,505
AB Permits	247	2,297	2,544	2,664	21,829	24,492
Commercial	1,197	897	2,094	12,558	7,372	19,930
General Public	0	563	563	0	5,025	5,025

Table 21 - FD Parking Supply by User Group (7AM-9PM)

User Group	Spaces			Space-Hours		
	Designated	Permitted	Total	Designated	Permitted	Total
LE Permits	82	261	344	1,144	2,927	4,072
AB Permits	68	261	330	820	2,927	3,748
Commercial	95	148	244	913	1,779	2,692
General Public	0	77	77	0	934	934

Table 22 - GS Parking Supply by User Group (7AM-9PM)

User Group	Spaces			Space-Hours		
	Designated	Permitted	Total	Designated	Permitted	Total
LE Permits	17	982	999	225	8,026	8,251
AB Permits	5	982	988	55	8,026	8,080
Commercial	74	847	921	945	6,248	7,193
General Public	0	276	276	0	3,400	3,400

Table 23 - BPC Parking Supply by User Group (7AM-9PM)

User Group	Spaces			Space-Hours		
	Designated	Permitted	Total	Designated	Permitted	Total
LE Permits	136	2,989	3,125	1,681	32,191	33,872
AB Permits	144	2,989	3,132	1,792	32,191	33,983
Commercial	980	1,958	2,938	9,980	21,685	31,666
General Public	0	787	787	0	10,135	10,135

Table 24 - TBC Parking Supply by User Group (7AM-9PM)

B5 Parking by User Group

Vehicle/Permit Type	Total Vehicles	Total Vehicle-Hours	% of Total
Private Vehicles	11,946	35,430	41.3%
Law Enforcement & Emergency Vehicles	3,983	19,694	22.9%
Commercial Vehicles	5,017	10,559	12.3%
Agency Vehicles	1,697	8,547	10.0%
Fake Permit Vehicles	592	3,048	3.5%
Taxis & Black Cars	2,174	2,857	3.3%
Special Permit Vehicles	594	2,688	3.1%
Government Vehicles (unspecified)	584	2,039	2.4%
Incongruous Vehicles	117	381	0.4%
Other Vehicles	121	414	0.5%
Transit Vehicles	135	229	0.3%
Total	26,960	85,886	100.0%

Table 25 - LM Vehicle/Permit Type Shares (7AM-9PM)

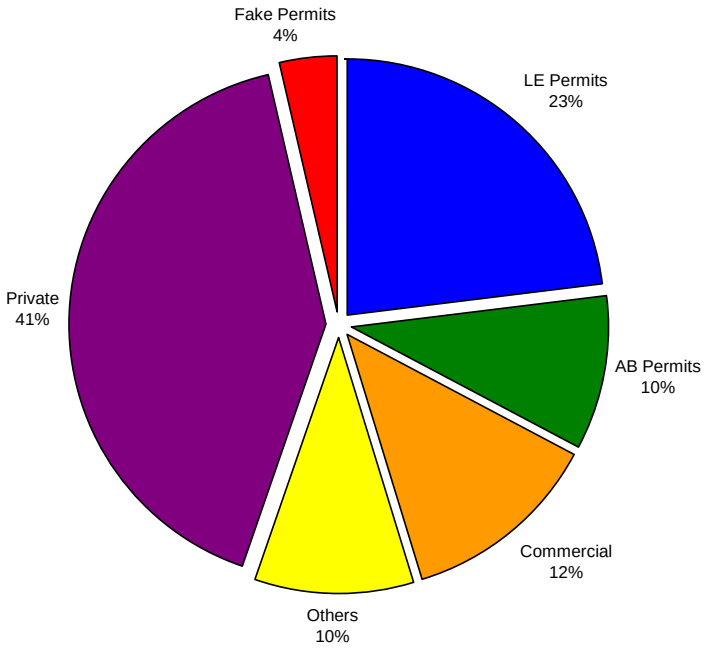

Figure 1 - LM Share of Vehicle/Permit Types (7AM-9PM)

Vehicle/Permit Type	Total Vehicles	Total Vehicle-Hours	% of Total
Private Vehicles	6,669	17,989	42.8%
Law Enforcement & Emergency Vehicles	2,122	9,864	23.5%
Commercial Vehicles	2,253	4,139	9.9%
Agency Vehicles	1,032	4,745	11.3%
Fake Permit Vehicles	310	1,474	3.5%
Taxis & Black Cars	775	1,117	2.7%
Special Permit Vehicles	326	1,289	3.1%
Government Vehicles (unspecified)	214	711	1.7%
Incongruous Vehicles	55	141	0.3%
Other Vehicles	104	364	0.9%
Transit Vehicles	83	158	0.4%
Total	13,943	41,991	100.0%

Table 26 - CCC Vehicle/Permit Type Shares (7AM-9PM)

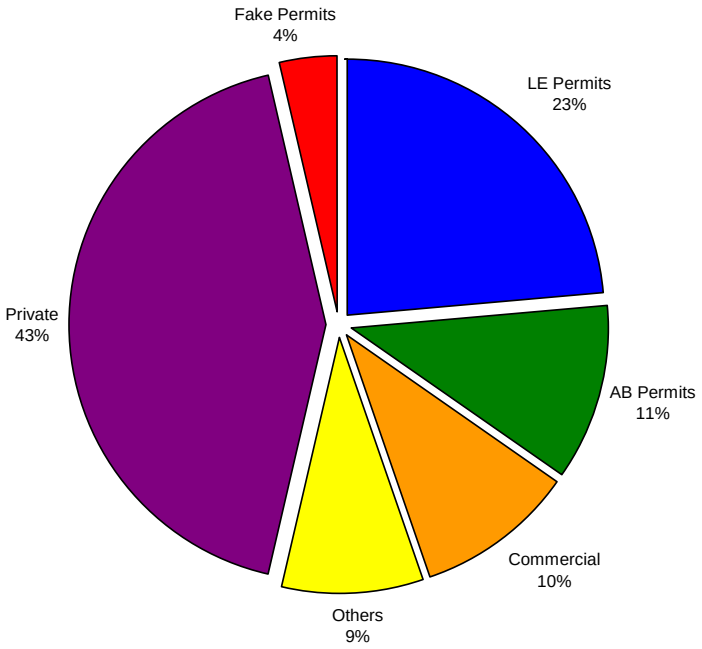

Figure 2 - CCC Share of Vehicle/Permit Types (7AM-9PM)

Vehicle/Permit Type	Total Vehicles	Total Vehice-Hours	% of Total
Private Vehicles	1,927	4,725	29.2%
Law Enforcement & Emergency Vehicles	717	3,641	22.5%
Commercial Vehicles	1,530	3,410	21.1%
Agency Vehicles	249	1,271	7.9%
Fake Permit Vehicles	155	785	4.9%
Taxis & Black Cars	770	877	5.4%
Special Permit Vehicles	123	573	3.5%
Government Vehicles (unspecified)	181	688	4.3%
Incongruous Vehicles	43	145	0.9%
Other Vehicles	13	34	0.2%
Transit Vehicles	27	33	0.2%
Total	5,735	16,182	100.0%

Table 27 - FD Vehicle/Permit Type Shares (7AM-9PM)

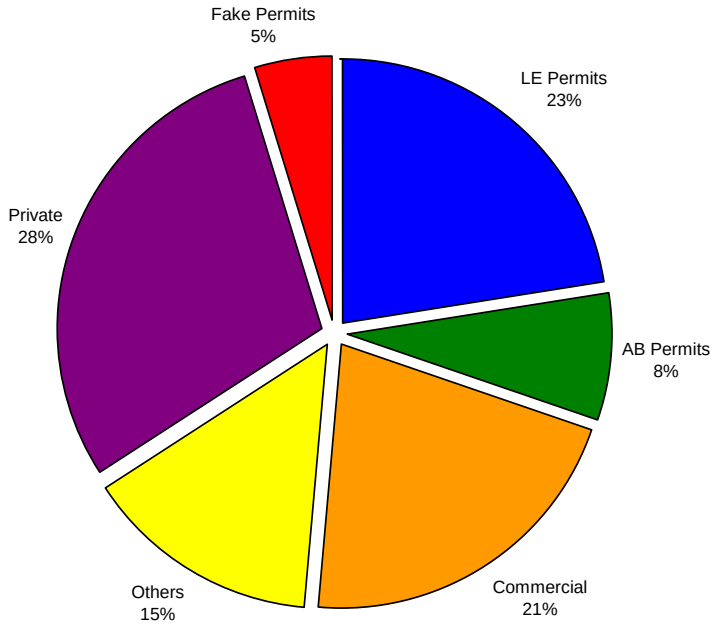

Figure 3 - FD Share of Vehicle/Permit Types (7AM-9PM)

Vehicle/Permit Type	Total Vehicles	Total Vehicle-Hours	% of Total
Private Vehicles	278	821	28.8%
Law Enforcement & Emergency Vehicles	253	1,164	40.8%
Commercial Vehicles	107	244	8.5%
Agency Vehicles	55	336	11.8%
Fake Permit Vehicles	10	78	2.7%
Taxis & Black Cars	16	24	0.8%
Special Permit Vehicles	17	112	3.9%
Government Vehicles (unspecified)	20	73	2.6%
Incongruous Vehicles	0	0	0.0%
Other Vehicles	0	0	0.0%
Transit Vehicles	2	3	0.1%
Total	758	2,855	100.0%

Table 28 - GS Vehicle/Permit Type Shares (7AM-9PM)

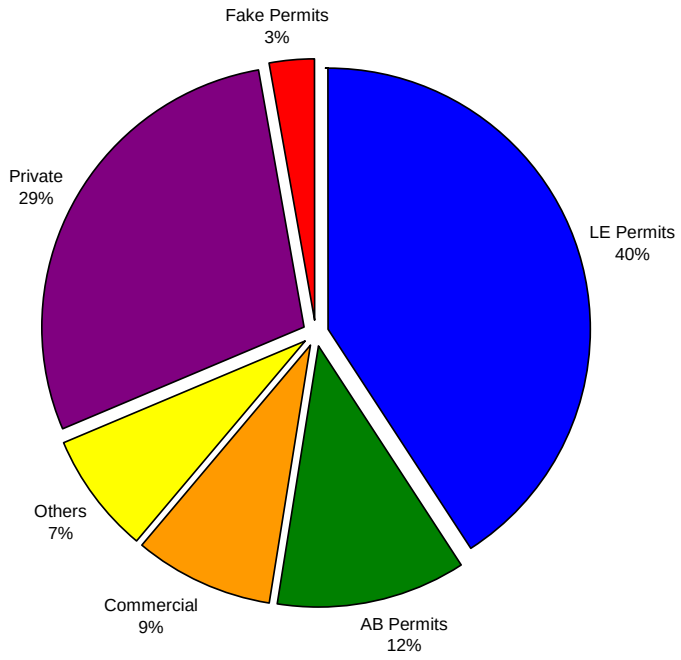

Figure 4 - GS Share of Vehicle/Permit Types (7AM-9PM)

Vehicle/Permit Type	Total Vehicles	Total Vehicle-Hours	% of Total
Private Vehicles	1,235	5,611	76.7%
Law Enforcement & Emergency Vehicles	151	445	6.1%
Commercial Vehicles	243	403	5.5%
Agency Vehicles	28	116	1.6%
Fake Permit Vehicles	16	82	1.1%
Taxis & Black Cars	316	374	5.1%
Special Permit Vehicles	38	197	2.7%
Government Vehicles (unspecified)	19	43	0.6%
Incongruous Vehicles	4	10	0.1%
Other Vehicles	0	0	0.0%
Transit Vehicles	19	31	0.4%
Total	2,069	7,312	100.0%

Table 29 - BPC Vehicle/Permit Type Shares (7AM-9PM)

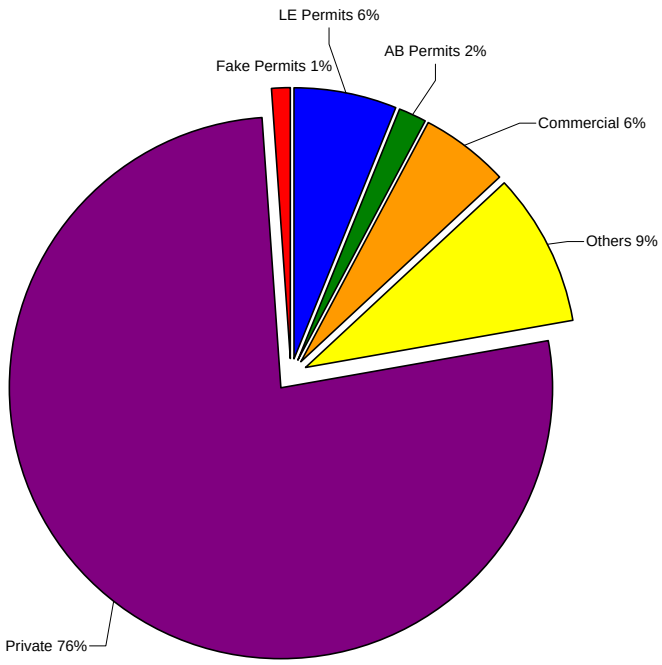

Figure 5 - BPC Share of Vehicle/Permit Types (7AM-9PM)

Vehicle/Permit Type	Total Vehicles	Total Vehicle-Hours	% of Total
Private Vehicles	1,837	6,284	35.8%
Law Enforcement & Emergency Vehicles	740	4,580	26.1%
Commercial Vehicles	884	2,363	13.5%
Agency Vehicles	333	2,079	11.8%
Fake Permit Vehicles	101	629	3.6%
Taxis & Black Cars	297	465	2.7%
Special Permit Vehicles	90	517	2.9%
Government Vehicles (unspecified)	150	524	3.0%
Incongruous Vehicles	15	85	0.5%
Other Vehicles	4	16	0.1%
Transit Vehicles	4	4	0.0%
Total	4,455	17,546	100.0%

Table 30 - TBC Vehicle/Permit Type Shares (7AM-9PM)

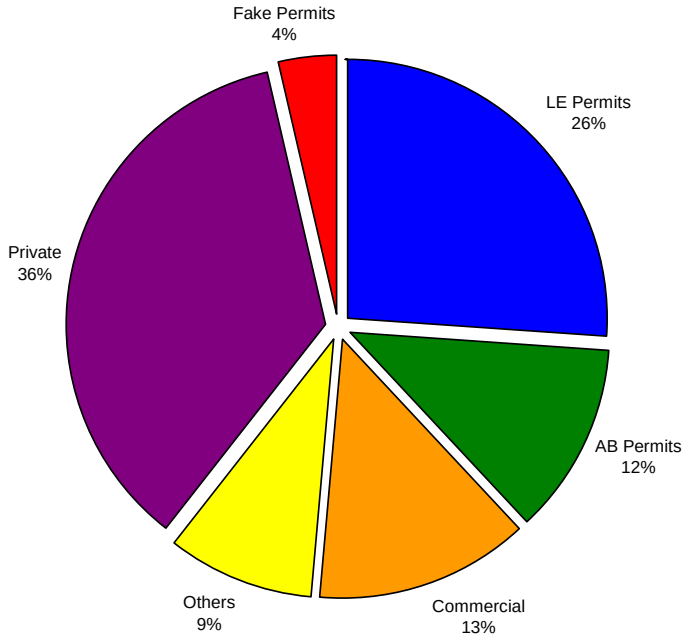

Figure 6 - TBC Share of Vehicle/Permit Types (7AM-9PM)

B6 Duration of Parking & Turnover

	Total Vehicles	Total Parking Stay	Mean Parking Stay
LE Permit	3,983	19,694	4.9
AB Permit	1,697	8,547	5.0
Commercial	5,017	10,559	2.1
Other	3,725	8,608	2.3
Private	11,946	35,430	3.0
Fake Permit	592	3,048	5.1
Total	26,960	85,886	3.2

Table 31 - LM Mean Parking Duration (7AM-9PM)

	<=1 Hr	%	1-3 Hrs	%	4-5 Hrs	%	6+ Hrs	%
LE Permits	866	22%	913	23%	621	16%	1,583	40%
AB Permits	351	21%	374	22%	279	16%	693	41%
Fake Permits	111	19%	149	25%	88	15%	244	41%
Commercial	3,009	60%	1,193	24%	437	9%	378	8%
Private	5,392	45%	3,379	28%	1,265	11%	1,910	16%
All Others	2,396	64%	691	19%	217	6%	421	11%
Total	12,125	45%	6,699	25%	2,907	11%	5,229	19%

Table 32 - LM Distribution of Length of Stays & Share of User Group (7AM-9PM)

	Total Vehicles	Total Parking Stay	Mean Parking Stay
LE Permit	2,122	9,864	4.6
AB Permit	1,032	4,745	4.6
Commercial	2,253	4,139	1.8
Other	1,557	3,780	2.4
Private	6,669	17,989	2.7
Fake Permit	310	1,474	4.8
Total	13,943	41,991	3.0

Table 33 - CCC Mean Parking Duration (7AM-9PM)

	<=1 Hr	%	1-3 Hrs	%	4-5 Hrs	%	6+ Hrs	%
LE Permits	544	26%	487	23%	346	16%	745	35%
AB Permits	249	24%	245	24%	163	16%	375	36%
Fake Permits	67	22%	91	29%	35	11%	117	38%
Commercial	1,502	67%	503	22%	138	6%	110	5%
Private	3,332	50%	1,842	28%	646	10%	849	13%
All Others	949	61%	314	20%	108	7%	186	12%
Total	6,643	48%	3,482	25%	1,436	10%	2,382	17%

Table 34 - CCC Distribution of Length of Stays & Share of User Group (7AM-9PM)

	Total Vehicles	Total Parking Stay	Mean Parking Stay
LE Permit	717	3,641	5.1
AB Permit	249	1,271	5.1
Commercial	1,530	3,410	2.2
Other	1,157	2,350	2.0
Private	1,927	4,725	2.5
Fake Permit	155	785	5.1
Total	5,735	16,182	2.8

Table 35 - FD Mean Parking Duration (7AM-9PM)

	<=1 Hr	%	1-3 Hrs	%	4-5 Hrs	%	6+ Hrs	%
LE Permits	126	18%	186	26%	110	15%	295	41%
AB Permits	53	21%	59	24%	37	15%	100	40%
Fake Permits	27	17%	38	25%	32	21%	58	37%
Commercial	864	56%	376	25%	158	10%	132	9%
Private	1,008	52%	544	28%	180	9%	195	10%
All Others	827	71%	177	15%	61	5%	92	8%
Total	2,905	51%	1,380	24%	578	10%	872	15%

Table 36 - FD Distribution of Length of Stays & Share of User Group (7AM-9PM)

	Total Vehicles	Total Parking Stay	Mean Parking Stay
LE Permit	253	1,164	4.6
AB Permit	55	336	6.1
Commercial	107	244	2.3
Other	55	212	3.9
Private	278	821	3.0
Fake Permit	10	78	7.8
Total	758	2,855	3.8

Table 37 - GS Mean Parking Duration (7AM-9PM)

	<=1 Hr	%	1-3 Hrs	%	4-5 Hrs	%	6+ Hrs	%
LE Permits	66	26%	58	23%	29	11%	100	40%
AB Permits	5	9%	14	25%	6	11%	30	55%
Fake Permits	2	20%	1	10%	1	10%	6	60%
Commercial	63	59%	25	23%	8	7%	11	10%
Private	133	48%	73	26%	24	9%	48	17%
All Others	24	44%	14	25%	2	4%	15	27%
Total	293	39%	185	24%	70	9%	210	28%

Table 38 - GS Distribution of Length of Stays & Share of User Group (7AM-9PM)

	Total Vehicles	Total Parking Stay	Mean Parking Stay
LE Permit	151	445	2.9
AB Permit	28	116	4.1
Commercial	243	403	1.7
Other	396	655	1.7
Private	1,235	5,611	4.5
Fake Permit	16	82	5.1
Total	2,069	7,312	3.5

Table 39 - BPC Mean Parking Duration (7AM-9PM)

	<=1 Hr	%	1-3 Hrs	%	4-5 Hrs	%	6+ Hrs	%
LE Permits	54	36%	62	41%	12	8%	23	15%
AB Permits	8	29%	6	21%	6	21%	8	29%
Fake Permits	1	6%	6	38%	3	19%	6	38%
Commercial	177	73%	47	19%	10	4%	9	4%
Private	317	26%	256	21%	207	17%	455	37%
All Others	316	80%	49	12%	5	1%	26	7%
Total	873	42%	426	21%	243	12%	527	25%

Table 40 - BPC Distribution of Length of Stays & Share of User Group (7AM-9PM)

	Total Vehicles	Total Parking Stay	Mean Parking Stay
LE Permit	740	4,580	6.2
AB Permit	333	2,079	6.2
Commercial	884	2,363	2.7
Other	560	1,611	2.9
Private	1,837	6,284	3.4
Fake Permit	101	629	6.2
Total	4,455	17,546	3.9

Table 41 - TBC Mean Parking Duration (7AM-9PM)

	<=1 Hr	%	1-3 Hrs	%	4-5 Hrs	%	6+ Hrs	%
LE Permits	76	10%	120	16%	124	17%	420	57%
AB Permits	36	11%	50	15%	67	20%	180	54%
Fake Permits	14	14%	13	13%	17	17%	57	56%
Commercial	403	46%	242	27%	123	14%	116	13%
Private	602	33%	664	36%	208	11%	363	20%
All Others	280	50%	137	24%	41	7%	102	18%
Total	1,411	32%	1,226	28%	580	13%	1,238	28%

Table 42 - TBC Distribution of Length of Stays & Share of User Group (7AM-9PM)

B7 Permit Types

Permit Type	Total Vehicles	Vehicle-Hours	% of Total
Agency Business	1,744	8,679	28.3%
Clergy	29	86	0.3%
Diplomat	0	0	0.0%
Film	22	157	0.5%
Handicapped-NYC	367	1,743	5.7%
Handicapped-NYS	38	214	0.7%
Law Enforcement	3,826	19,231	62.7%
On-Street	74	251	0.8%
Press	46	189	0.6%
Scouting	2	28	0.1%
Single-Use	41	99	0.3%
Total	6,189	30,677	100.0%

Table 43 - LM Total Vehicles & Vehicle-Hours Observed by Legitimate Permit Type (7AM-9PM)

Permit Type	Total Vehicles	Vehicle-Hours	% of Total
Fake	15	80	2.5%
Letter	95	473	14.7%
Pseudo Placard	224	1,153	35.8%
Sign	68	289	9.0%
Other	237	1,225	38.0%
Total	639	3,220	100.0%

Table 44 - LM Total Vehicles & Vehicle-Hours Observed by Illegitimate Permit Type (7AM-9PM)

Permit Type	Total Vehicles	Vehicle-Hours	% of Total
Agency Business	1065	4826	30.2%
Clergy	27	81	0.5%
Diplomat	0	0	0.0%
Film	16	130	0.8%
Handicapped-NYC	166	678	4.2%
Handicapped-NYS	10	61	0.4%
Law Enforcement	2095	9826	61.5%
On-Street	58	166	1.0%
Press	23	96	0.6%
Scouting	2	28	0.2%
Single-Use	36	78	0.5%
Total	3498	15970	100.0%

Table 45 - CCC Total Vehicles & Vehicle-Hours Observed by Legitimate Permit Type (7AM-9PM)

Permit Type	Total Vehicles	Vehicle-Hours	% of Total
Fake	13	66	4.4%
Letter	51	268	17.8%
Pseudo Placard	85	434	28.8%
Sign	47	192	12.8%
Other	125	545	36.2%
Total	321	1505	100.0%

Table 46 - CCC Total Vehicles & Vehicle-Hours Observed by Illegitimate Permit Type (7AM-9PM)

Permit Type	Total Vehicles	Vehicle-Hours	% of Total
Agency Business	260	1303	24.0%
Clergy	0	0	0.0%
Diplomat	0	0	0.0%
Film	0	0	0.0%
Handicapped-NYC	93	416	7.7%
Handicapped-NYS	18	93	1.7%
Law Enforcement	677	3527	64.9%
On-Street	14	79	1.5%
Press	3	5	0.1%
Scouting	0	0	0.0%
Single-Use	4	14	0.3%
Total	1069	5437	100.0%

Table 47 - FD Total Vehicles & Vehicle-Hours Observed by Legitimate Permit Type (7AM-9PM)

Permit Type	Total Vehicles	Vehicle-Hours	% of Total
Fake	0	0	0.0%
Letter	21	57	6.6%
Pseudo Placard	115	619	71.5%
Sign	9	42	4.8%
Other	34	148	17.1%
Total	179	866	100.0%

Table 48 - FD Total Vehicles & Vehicle-Hours Observed by Illegitimate Permit Type (7AM-9PM)

Permit Type	Total Vehicles	Vehicle-Hours	% of Total
Agency Business	55	336	22.9%
Clergy	0	0	0.0%
Diplomat	0	0	0.0%
Film	0	0	0.0%
Handicapped-NYC	17	112	7.6%
Handicapped-NYS	0	0	0.0%
Law Enforcement	209	1,020	69.5%
On-Street	0	0	0.0%
Press	0	0	0.0%
Scouting	0	0	0.0%
Single-Use	0	0	0.0%
Total	281	1,468	100.0%

Table 49 - GS Total Vehicles & Vehicle-Hours Observed by Legitimate Permit Type (7AM-9PM)

Permit Type	Total Vehicles	Vehicle-Hours	% of Total
Fake	0	0	0.0%
Letter	6	68	87.2%
Pseudo Placard	2	6	7.7%
Sign	2	4	5.1%
Other	0	0	0.0%
Total	10	78	100.0%

Table 50 - GS Total Vehicles & Vehicle-Hours Observed by Illegitimate Permit Type (7AM-9PM)

Permit Type	Total Vehicles	Vehicle-Hours	% of Total
Agency Business	28	116	16.0%
Clergy	0	0	0.0%
Diplomat	0	0	0.0%
Film	0	0	0.0%
Handicapped-NYC	27	150	20.7%
Handicapped-NYS	0	0	0.0%
Law Enforcement	135	405	55.8%
On-Street	0	0	0.0%
Press	13	48	6.6%
Scouting	0	0	0.0%
Single-Use	1	7	1.0%
Total	204	726	100.0%

Table 51 - BPC Total Vehicles & Vehicle-Hours Observed by Legitimate Permit Type (7AM-9PM)

Permit Type	Total Vehicles	Vehicle-Hours	% of Total
Fake	0	0	0.0%
Letter	6	26	31.0%
Pseudo Placard	3	11	13.1%
Sign	0	0	0.0%
Other	8	47	56.0%
Total	17	84	100.0%

Table 52 - BPC Total Vehicles & Vehicle-Hours Observed by Illegitimate Permit Type (7AM-9PM)

Permit Type	Total Vehicles	Vehicle-Hours	% of Total
Agency Business	336	2,098	29.6%
Clergy	2	5	0.1%
Diplomat	0	0	0.0%
Film	6	27	0.4%
Handicapped-NYC	64	387	5.5%
Handicapped-NYS	10	60	0.8%
Law Enforcement	710	4,453	62.9%
On-Street	2	6	0.1%
Press	7	40	0.6%
Scouting	0	0	0.0%
Single-Use	0	0	0.0%
Total	1,137	7,076	100.0%

Table 53 - TBC Total Vehicles & Vehicle-Hours Observed by Legitimate Permit Type (7AM-9PM)

Permit Type	Total Vehicles	Vehicle-Hours	% of Total
Fake	2	14	2.0%
Letter	11	54	7.9%
Pseudo Placard	19	83	12.1%
Sign	10	51	7.4%
Other	70	485	70.6%
Total	112	687	100.0%

Table 54 - TBC Total Vehicles & Vehicle-Hours Observed by Illegitimate Permit Type (7AM-9PM)

B8 Permit Parking in Commercial & Metered Spaces

	Commercial			Meters		
	Vehicles	**Vehicle-Hours**	**% of Comm Space-Hours**	**Vehicles**	**Vehicle-Hours**	**% of Metered Space-Hours**
AB Permit	406	1,966	4.9%	148	538	5.0%
LE Permit	978	4,618	11.6%	195	777	7.3%
Fake Permit	112	490	1.2%	38	118	1.1%
Other Permit	146	652	1.6%	78	295	2.8%
Total	1,642	7,726	19.4%	459	1,728	18.2%

Table 55 - LM Permit Parking in Commercial and Metered Regulations (7AM-9PM)

	Commercial			Meters		
	Vehicles	**Vehicle-Hours**	**% of Comm Space-Hours**	**Vehicles**	**Vehicle-Hours**	**% of Metered Space-Hours**
AB Permit	201	785	5.1%	123	466	7.1%
LE Permit	461	2,075	13.5%	108	389	6.3%
Fake Permit	45	177	1.2%	15	50	0.8%
Other Permit	92	366	2.4%	48	191	3.1%
Total	799	3,403	23.8%	294	1,096	18.3%

Table 56 - CCC Permit Parking in Commercial and Metered Regulations (7AM-9PM)

	Commercial			Meters		
	Vehicles	**Vehicle-Hours**	**% of Comm Space-Hours**	**Vehicles**	**Vehicle-Hours**	**% of Metered Space-Hours**
AB Permit	81	398	3.2%	7	10	0.6%
LE Permit	274	1,262	10.0%	31	104	6.5%
Fake Permit	49	210	1.7%	12	35	2.2%
Other Permit	36	206	1.6%	11	24	1.5%
Total	442	2,076	16.5%	61	173	10.9%

Table 57 – FD Permit Parking in Commercial and Metered Regulations (7AM-9PM)

	Commercial			Meters		
	Vehicles	Vehicle-Hours	% of Comm Space-Hours	Vehicles	Vehicle-Hours	% of Metered Space-Hours
AB Permit	9	64	7.0%	3	18	4.8%
LE Permit	18	69	7.6%	14	46	12.2%
Fake Permit	2	24	2.6%	0	0	0.0%
Other Permit	3	23	2.5%	3	3	0.8%
Total	32	180	19.7%	20	67	17.8%

Table 58 - GS Permit Parking in Commercial and Metered Regulations (7AM-9PM)

	Commercial			Meters		
	Vehicles	Vehicle-Hours	% of Comm Space-Hours	Vehicles	Vehicle-Hours	% of Metered Space-Hours
AB Permit	2	10	1.1%	6	11	3.2%
LE Permit	24	61	6.5%	6	16	4.6%
Fake Permit	2	9	1.0%	5	10	2.9%
Other Permit	1	3	0.3%	4	8	2.3%
Total	29	83	8.8%	21	45	12.9%

Table 59 - BPC Permit Parking in Commercial and Metered Regulations (7AM-9PM)

	Commercial			Meters		
	Vehicles	Vehicle-Hours	% of Comm Space-Hours	Vehicles	Vehicle-Hours	% of Metered Space-Hours
AB Permit	113	709	7.1%	9	33	1.5%
LE Permit	201	1,151	11.5%	36	222	10.2%
Fake Permit	14	70	0.7%	6	23	1.1%
Other Permit	12	54	0.5%	12	69	3.2%
Total	340	1,984	19.9%	63	347	16.0%

Table 60 - TBC Permit Parking in Commercial and Metered Regulations (7AM-9PM)

B9 Illegal Permit Parking

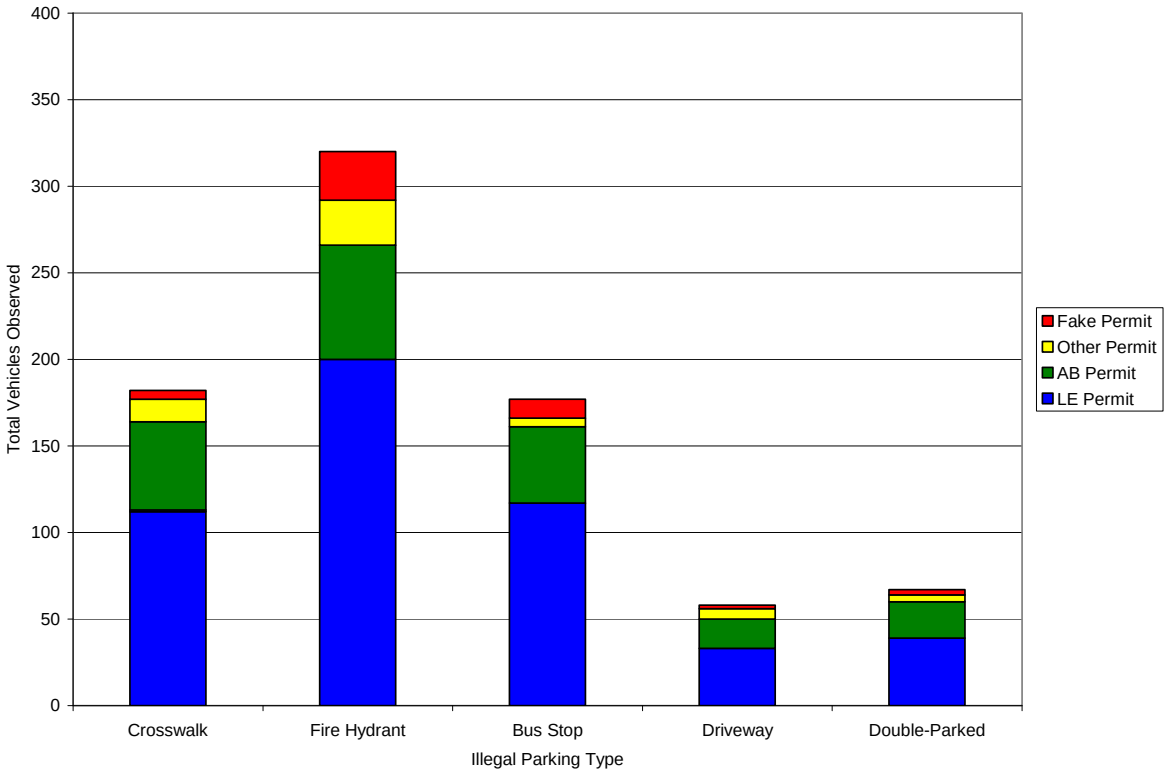

Figure 7 - LM Illegally Parked Permit Vehicles (7AM-9PM)

	Illegal Vehicle-Hours	Total Vehicle-Hours	% Illegal
LE Permit	1,863	19,694	9.5%
AB Permit	850	8,547	9.9%
Other Permit	174	2,688	6.5%
Fake Permit	229	3,048	7.5%
Total	3,116	33,977	9.2%

Table 61 - LM Illegal Permit Parking as % of All Permit Parking (7AM-9PM)

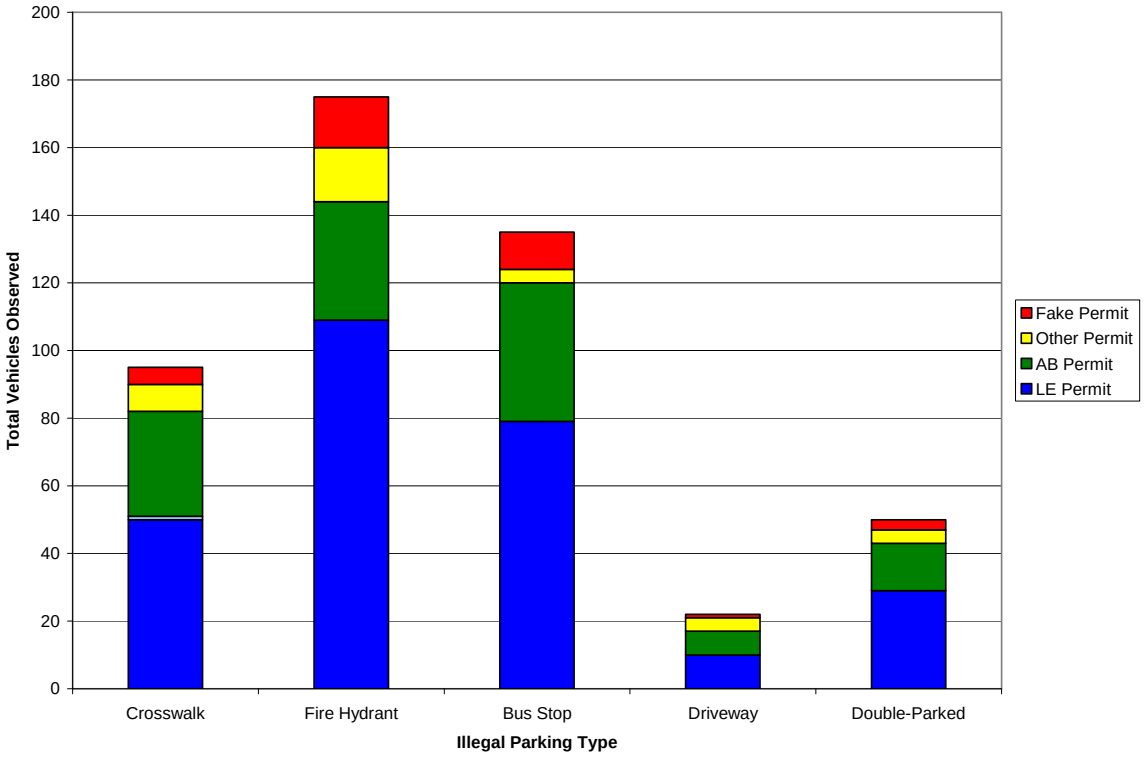

Figure 8 - CCC Illegally Parked Permit Vehicles (7AM-9PM)

	Illegal Vehicle-Hours	Total Vehicle-Hours	% Illegal
LE Permit	904	9,864	9.2%
AB Permit	525	4,745	11.1%
Other Permit	91	1,289	7.1%
Fake Permit	136	1,474	9.2%
Total	1,656	17,372	9.5%

Table 62 - CCC Illegal Permit Parking as % of All Permit Parking (7AM-9PM)

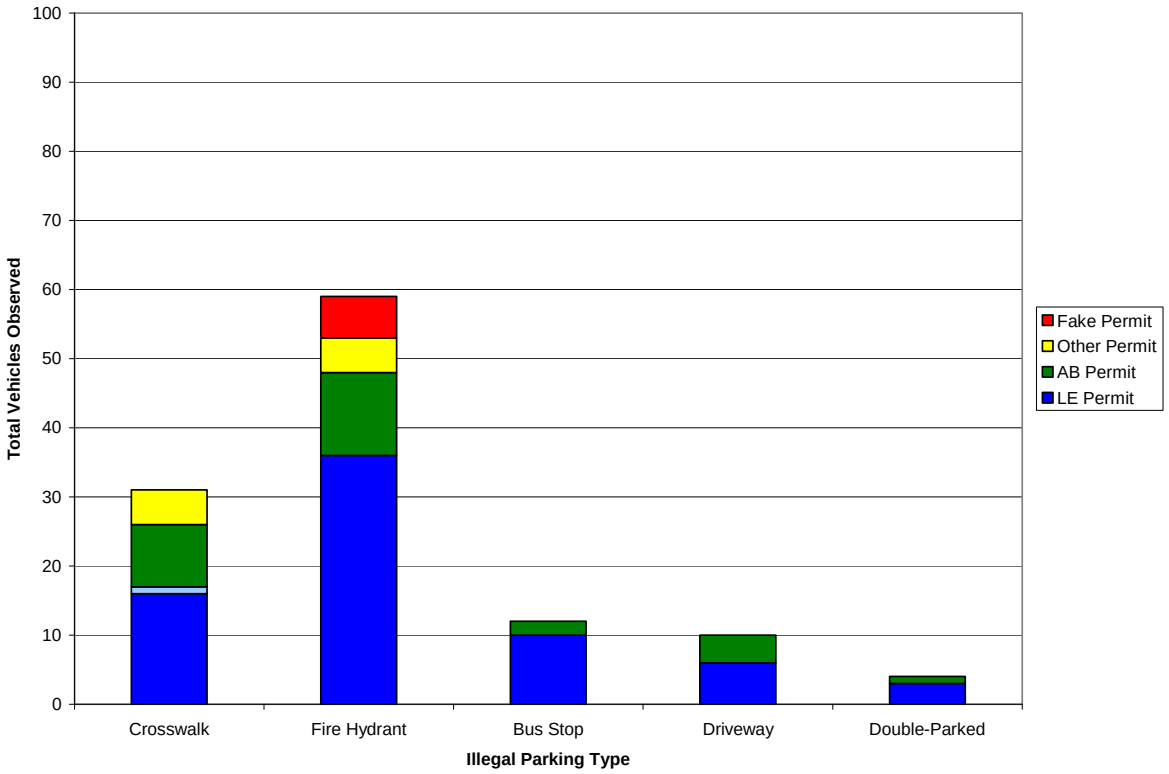

Figure 9 - FD Illegally Parked Permit Vehicles (7AM-9PM)

	Illegal Vehicle-Hours	Total Vehicle-Hours	% Illegal
LE Permit	331	3,641	9.1%
AB Permit	106	1,271	8.3%
Other Permit	37	573	6.5%
Fake Permit	38	785	4.8%
Total	512	6,270	8.2%

Table 63 - FD Illegal Permit Parking as % of All Permit Parking (7AM-9PM)

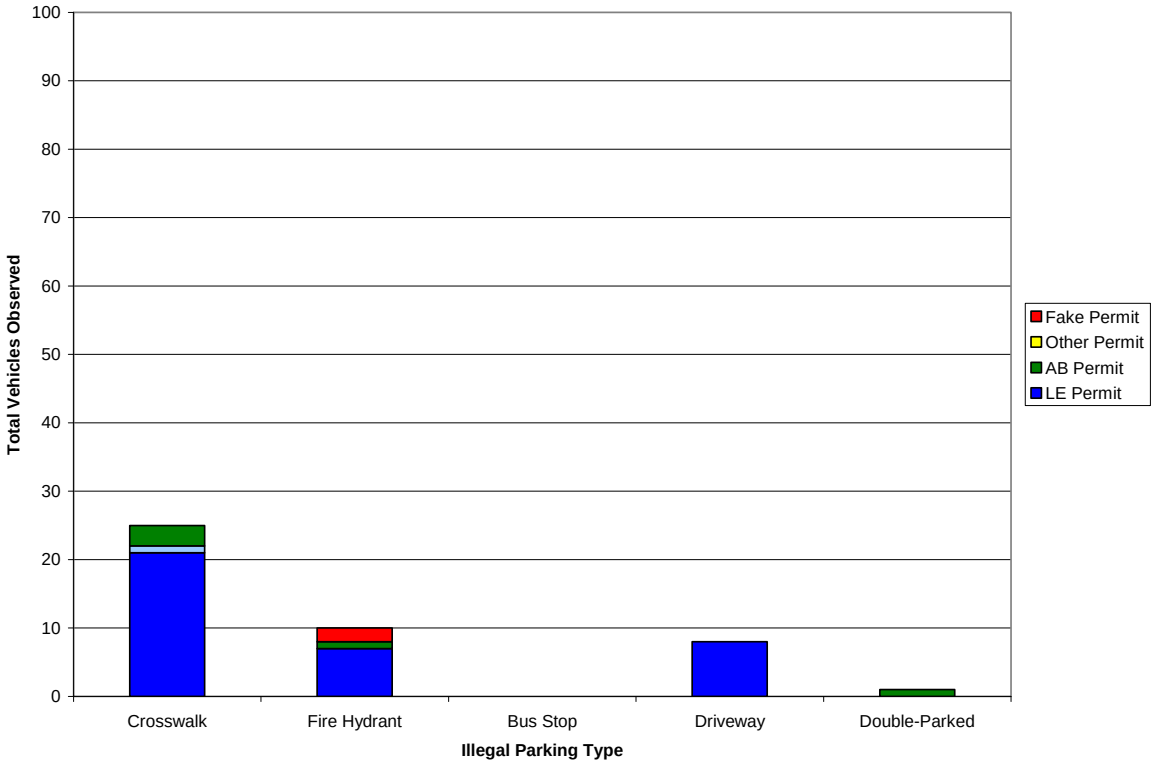

Figure 10 - GS Illegally Parked Permit Vehicles (7AM-9PM)

	Illegal Vehicle-Hours	Total Vehicle-Hours	% Illegal
LE Permit	147	1,164	12.6%
LE Permit - Other	29	246	11.8%
AB Permit	30	336	8.9%
Other Permit	0	112	0.0%
Fake Permit	20	78	25.6%
Total	197	1,690	11.7%

Table 64 - GS Illegal Permit Parking as % of All Permit Parking (7AM-9PM)

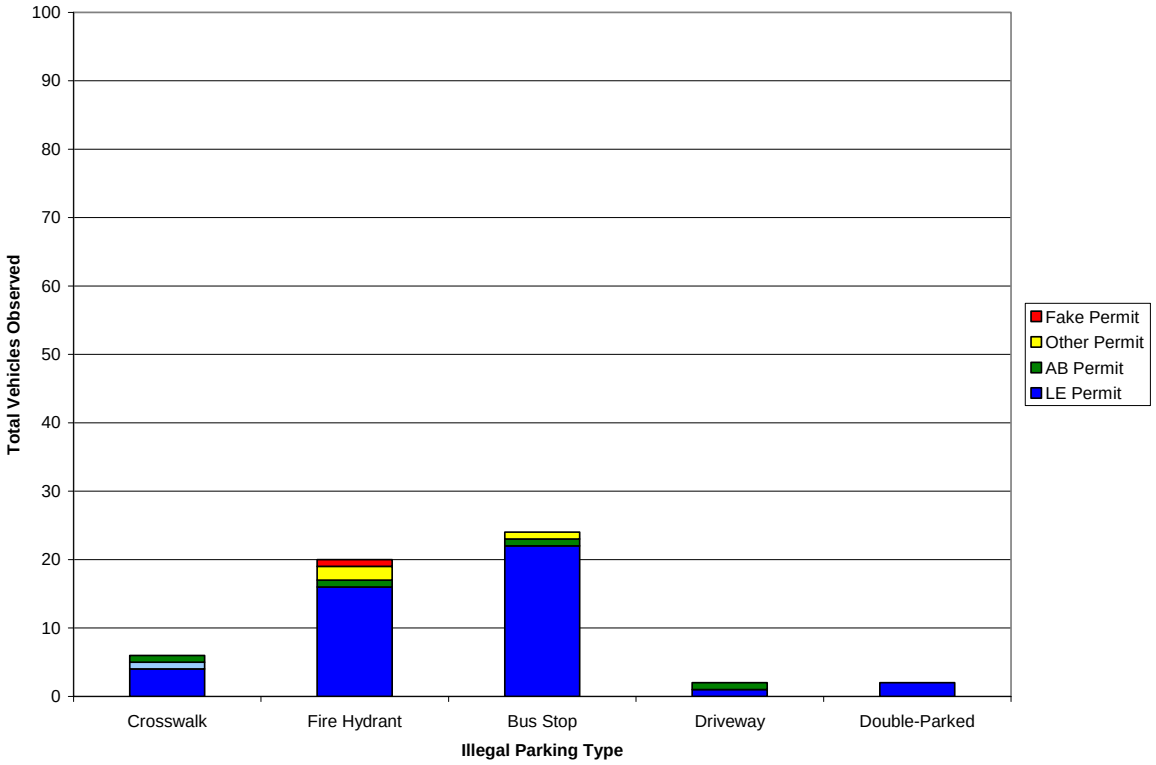

Figure 11 - BPC Illegally Parked Permit Vehicles (7AM-9PM)

	Illegal Vehicle-Hours	Total Vehicle-Hours	% Illegal
LE Permit	112	445	25.2%
AB Permit	9	116	7.8%
Other Permit	15	197	7.6%
Fake Permit	7	82	8.5%
Total	143	840	17.0%

Table 65 - BPC Illegal Permit Parking as % of All Permit Parking (7AM-9PM)

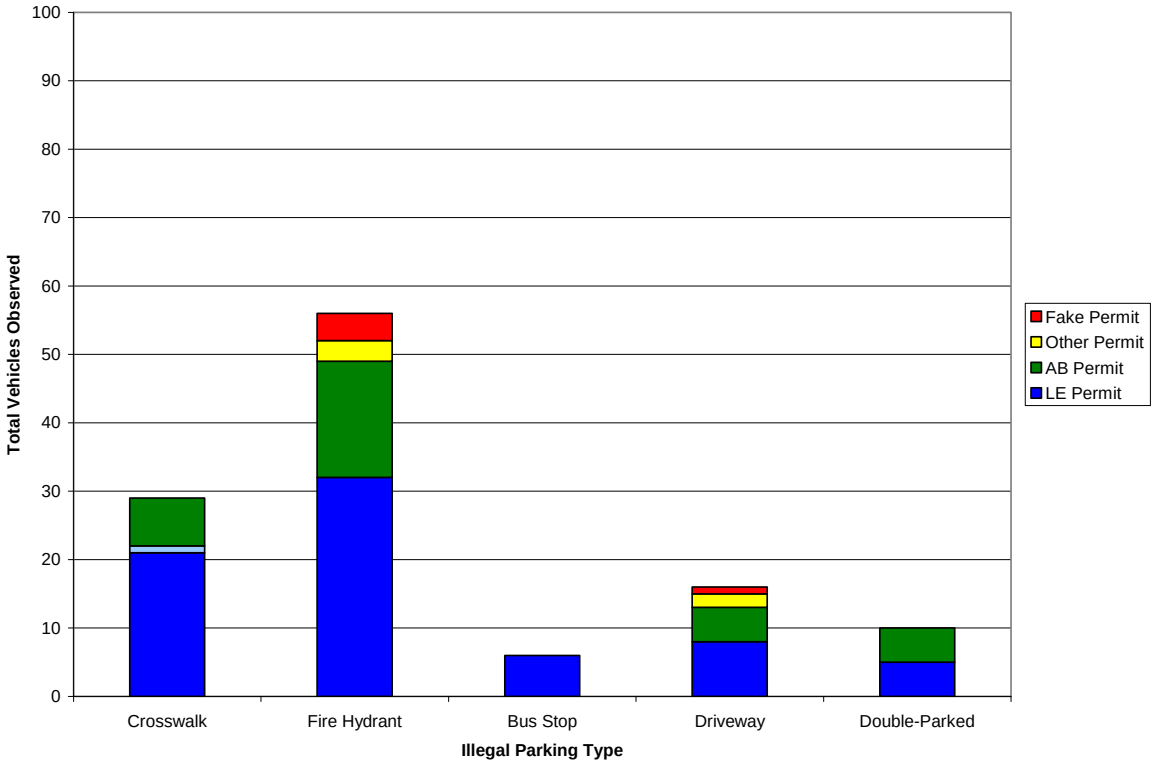

Figure 12 - TBC Illegally Parked Permit Vehicles (7AM-9PM)

	Illegal Vehicle-Hours	Total Vehicle-Hours	% Illegal
LE Permit	369	4,580	8.1%
AB Permit	180	2,079	8.7%
Other Permit	31	517	6.0%
Fake Permit	28	629	4.5%
Total	608	7,805	7.8%

Table 66 - TBC Illegal Permit Parking as % of All Permit Parking (7AM-9PM)

Appendix C

Citywide Placard Parking Reduction Strategy Materials

Contents

C1 Placard Parking Reduction Press Release[1]

FOR IMMEDIATE RELEASE

January 3, 2008

No. 3

www.nyc.gov

MAYOR BLOOMBERG ANNOUNCES PLAN TO LIMIT CITY PARKING PLACARDS

Mayor Michael R. Bloomberg today announced that the City of New York, as part its efforts to reduce traffic congestion, decrease the City's carbon footprint, encourage the use of public transportation, and reduce the demand for curbside parking in connection with City business, is implementing a multi-faceted program to reduce the number and misuse of government parking placards. First, every City agency will reduce its number of parking placards by at least 20%. Second, the issuance of parking placards will be centralized and only the Police Department

(NYPD) and the Department of Transportation (DOT) will have the authority to issue them. Third, the NYPD will create a new enforcement unit to ensure compliance and agencies will develop enforcement procedures to prevent the abuse of placards. A multi-agency working group will implement and coordinate the various measures being taken and take additional actions, including a review of existing agency parking space allocations and on-street parking regulations.

"Parking placards are a useful tool for conducting City business, but we have no tolerance for their abuse and we have to do our part to reduce congestion," said Mayor Bloomberg. "We will give out placards only to those who need to use them to further the public interest. City workers have often led by example, and our efforts to reduce traffic congestion will be no different."

"In addition to the reduction in official placards, vehicles displaying look-alike or counterfeit placards will be issued summonses and their owners will be subject to further prosecution," said Police Commissioner Raymond W. Kelly.

"A reduction in placards isn't just about opening up curbside parking spaces," said Janette Sadik-Khan, DOT Commissioner. "It also speaks to the City's efforts to be smarter about the allocation of our transportation resources, and to a transportation policy that aims for a greener, greater and less congested New York. Leveling the parking playing field will significantly promote these goals."

The multi-agency working group on placard use has asked each City agency to create an inventory of all parking placards for use as a benchmark for the 20 percent reduction. On March 1st the reduced number of permits will be issued by either the NYPD or DOT, and from that date forward only those two agencies will issue placards. The NYPD will issue placards for its use and for law enforcement agencies it currently issues permits to and the DOT will issue all other placards for every other City agency. The working group will develop a process for agencies to demonstrate a need for additional placards, which will be reviewed on an agency-by-agency basis. In connection with the reduction in placards issued, agencies will implement measures to prevent parking-placard misuse by agency personnel.

[1] Source: New York City Department of Transportation, Lower Manhattan Borough Commissioner's Office

The working group will also conduct a review of existing parking-space allocations and on-street parking regulations throughout the City. The group will work with agencies to develop strategies to ensure compliance with parking and placard regulations, including time limits in no parking, truck loading, and metered zones, to increase the use of technology such as in-vehicle smart placards and create greater reliance on public transportation. The group will also develop reporting metrics to assess the effectiveness of agency compliance and enforcement. The group, chaired by Deputy Mayor for Operations Edward Skyler, consists of representatives from the NYPD, DOT, Finance Department and the Mayor's Office of Operations.

-30-

Contact: Stu Loeser/Jason Post (212) 788-2958 Paul Browne (NYPD) (646) 610-6700 Seth Solomonow (DOT) (212) 442-7033

C2 NYC Mayor's Office Placard Parking Memo[2]

OFFICE OF THE MAYOR
OFFICE OF OPERATIONS
253 Broadway - 10th Floor
New York, New York 10007
www.nyc.gov/operations

JEFFREY A. KAY
Director

(212) 442-8130
Fax: (212) 788-1665

Memorandum

To: Agency Heads

From: Jeffrey Kay

Date: January 4, 2008

Re: Citywide Parking Placard Reduction

As you know, the Mayor has announced plans to reduce traffic congestion and the City's carbon footprint. In this regard, agencies were directed to reduce the number of parking placards in all categories and submit to this office a complete inventory of current parking placards no later than January 11, 2008. Please note that this includes both Agency/Official Business, which are valid throughout the City, and agency specific Parking Permits, which are valid only at designated agency parking spaces usually found in the vicinity of an agency facility.

To further this effort, my office has prepared the attached Excel spreadsheet to capture information pertinent to the parking placards and permits assigned to and issued by your agency. Please carefully complete all data elements requested by the spreadsheet. If any category does not apply, input "not applicable." The spreadsheet should not be modified in any way.

Completed spreadsheets should be emailed by January 11, 2008 to ParkingPlacards@cityhall.nyc.gov.

I appreciate your timely response; if you have any questions with respect to this effort, please contact George Davis III at (212) 788-2643 or by e-mail at Gdavis@cityhall.nyc.gov.

Thank you

cc: Ed Skyler, Deputy Mayor

[2] Source: New York City Department of Transportation, Lower Manhattan Borough Commissioner's Office