

**LUDLOW
PARKING STUDY
Chestnut Street and Winsor Road Area**

April, 2000

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I. INTRODUCTION

At the request of the Town of Ludlow, the Pioneer Valley Planning Commission (PVPC) has conducted a parking study for the Chestnut Street area as part of our current Unified Work Program. The purpose of a parking survey (or parking usage study) is to provide details on the efficiency of existing parking facilities and determine the need for revising the existing parking supply. This report presents a summary of the existing parking inventory, survey results, and recommendations for improvements to alleviate parking problems.

The need for a parking study in this area was established by the Ludlow Board of Selectman due to the recent renovation of the Primary Cole Building by the Ludlow School Department located on Winsor Road. Concerns were raised regarding the need for additional parking for employees, parents as they pick up and drop off their children and the impact on pedestrian circulation. Surrounding land uses also expressed concerns that additional parking demands associated with the School Department would decrease the number of available parking spaces in the vicinity of their site.

The study area for the Ludlow Parking Study as shown in Figure 1 includes all of the public as well as many private parking facilities located in the area between Winsor Road and East Street. On street parking (or curbside parking) spaces are provided on each of the streets in the study area. The off-street public parking spaces (or parking lots) are located between Chestnut and Sewell Street. All other parking spaces are considered private and occupied by the organization that owns them.

II. METHODOLOGY

Parking inventories are intended to gather information on existing parking supply and its use. Parking inventories include observations of the number of parking spaces and their location, time restrictions, and the type of parking facility. In order to facilitate the recording of parking locations, the study area is divided into several blocks and block faces (East, West, North, South). Inventory data is then displayed in tables to allow for a comprehensive method of evaluating the data.

An accumulation (or occupancy) check was used in analyzing the parking capacity of the study area. Parking accumulation is the total number of vehicles parked at any given time. The purpose of accumulation checks is to establish hourly variations and peak parking demand.

III. PARKING INVENTORY

An inventory of the number of on-street and off-street parking spaces in the study area was conducted by the PVPC staff. Since some on-street spaces were not marked, it was assumed that each space would occupy 18 feet of curb within the study area. All inventoried spaces are identified with individual block numbers as shown in Figure 2. A total of 445 spaces were identified in the study area.

IV. PARKING USAGE STUDIES

The parking survey was performed on Tuesday, February 15, 2000 from 6:00AM to 6:00PM. An observer performed 30-minute counts around a fixed route and recorded the total amount of occupied spaces in each of the twenty-two locations.

V. PARKING SURVEY RESULTS

A Parking Occupancy Survey shows the number of vehicles parked in pre-defined areas over a set time-period. Table 1 summarizes the information for the Parking Occupancy survey. It is apparent that the most highly utilized areas are parking lots within the study area and on-street parking within close proximity to the lots. Average utilization is defined as the number of vehicles parked in the blocks throughout the day divided by the total number of study hours. It is assumed that 90% of the total spaces can be utilized at one time which defines practical capacity.

The following observations can be made from Table 1:

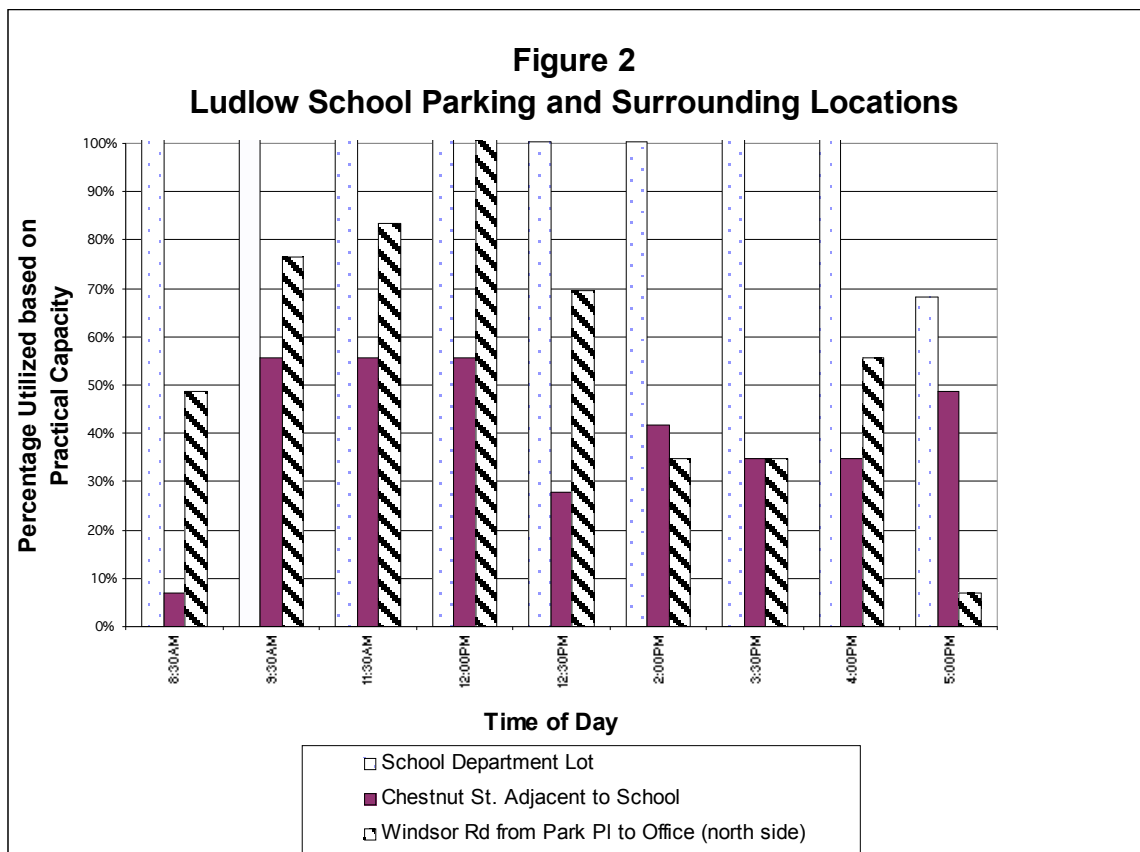
- 13 of the 25 blocks were found to be at 100% practical capacity
- Lots located along Winsor Road and Sewall Street, blocks 3, 5, 6, 7, and 8 respectively had the lowest utilized capacity throughout the study area
- 7 of the 10 parking lots had an average capacity over 55% throughout the survey time
- Only 2 locations were found to have an average utilization greater than 70% during the survey time

**TABLE 1
Parking Characteristics**

Block #	Street	Segment	Max. Spaces at 100% capacity	Average % of Utilization	Max spaces at practical capacity	Peak % at practical capacity	Comments
1	Windsor Road	Chestnut Office Park 77 Windsor St.	62	59%	56	100%	Peak utilization in mid day to afternoon
2	Windsor Road	School Department Lot	31	75%	28	100%	Highly utilized throughout the survey time
3	Windsor Road	Winsor Rd from Chestnut to Sewall St.	7	14%	6	48%	Peak utilization mid day
4	Windsor Road	Winsor Rd from Office Park to Sewall St.	5	42%	5	100%	Peak utilization mid day
5	Windsor Road	Winsor Rd. from Sewall to Lower Whitney Rd.	7	10%	6	48%	Very low utilization during survey time
6	Windsor Road	Winsor Rd from Sewall to Lower Whitney Rd.	7	6%	6	16%	Very low utilization during survey time
7	Sewell Street	Sewall St. from Winsor to Chestnut Place	6	15%	5	56%	Very low utilization during survey time
8	Sewell Street	Sewall St. from Winsor to Chestnut Place	12	15%	11	28%	Very low utilization during survey time
9	Sewell Street	Funeral Home Parking Lot	36	66%	32	100%	Highly utilized throughout survey time
10	Sewell Street	Sewall St. from Chestnut Place to East St.	5	66%	5	100%	Peak utilization in AM
11	Sewell Street	Sewall St. from Chestnut Place to East St.	6	29%	5	93%	Low utilization during survey time
12	Sewell Street	Hospital/Boys Club Lot	44	73%	40	100%	Peak utilization mid to late afternoon
13	Sewell Street	Hospital Overflow Lot	18	27%	16	37%	Low utilization during survey time
14	East Street	East St. from Sewall to Chestnut St.	10	37%	9	78%	Peak utilization late afternoon
15	Chestnut Street	Chestnut St. from East St. to Chestnut Place Lot (West Side)	13	62%	12	100%	Peak utilization mid day
16	Chestnut Street	Chestnut Street from East St. to Chestnut Place Lot (East Side)	10	42%	9	100%	Peak utilization mid day
17	Chestnut Street	Chestnut St. on street in front of Apts	8	49%	7	100%	Peak utilization mid day
18	Chestnut Street	Hospital Parking Lot	26	65%	23	100%	Highly utilized throughout survey time
19	Chestnut Street	Public Parking at Chestnut St (Chestnut Place Lot)	39	69%	35	100%	Highly utilized throughout survey time
20	Chestnut Street	Chestnut St. Apartment Lot	18	60%	16	86%	Peak utilization in AM
21	Chestnut Street	Chestnut St. on street adjacent to baseball field	9	25%	8	74%	Peak utilization AM to mid day
22	Chestnut Street	Chestnut St. adjacent to School Dept.	16	35%	14	56%	Peak utilization AM to mid day
23	Chestnut Street	Ludlow Senior Center	22	44%	20	100%	Peak utilization mid day
24	Windsor Road	Winsor Rd. from Park Place to School (South Side)	12	20%	11	74%	Peak utilization mid day
25	Windsor Road	Winsor Rd. from Park Place to Office Park (North Side)	16	35%	14	100%	Peak utilization AM to mid day

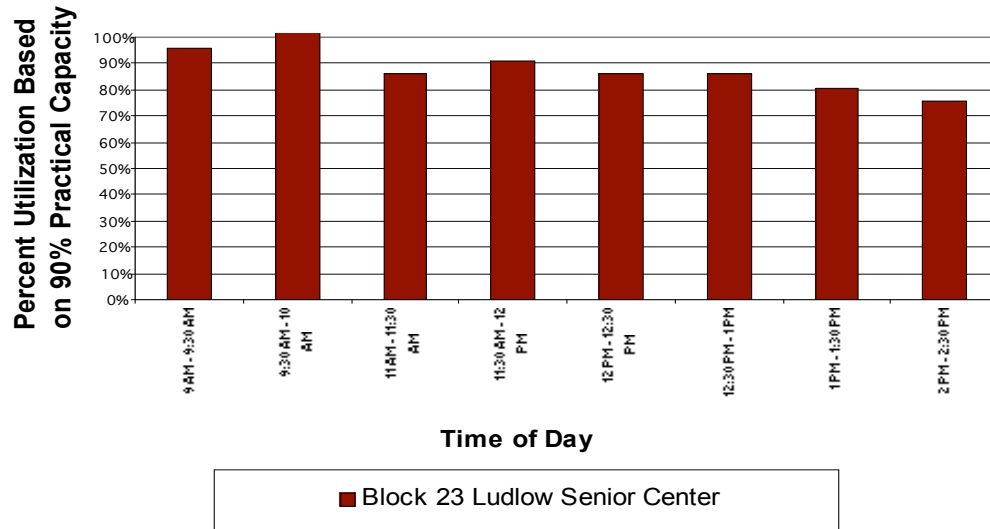
Several of the on-street parking locations surrounding the school were under utilized throughout the survey time. As seen in Figure 3, the adjacent on-street parking does not reach full capacity during the School lot peak hours and Windsor Road on street parking only reaches 100% practical capacity at noon. There are 53 on-street spaces available in the surrounding school area located on Winsor Road and Chestnut Street. The vehicle volumes and speeds along Winsor Road may discourage pedestrians from parking opposite the School during drop off and pick up times. This may explain the under utilization of parking locations on the northern side of the street.

The Hospital / Boys Club (block 12) lot, the Hospital Lot (block 18) as well as the Chestnut Street Public Parking lot (block 19) maintained high utilization throughout the day. The on-street parking located along Chestnut Street from East Street to the Chestnut Street Public Parking on both the east and west sides, also averaged high utilization throughout the survey time and peaked at 100% utilization mid-day.



The Ludlow Senior Center parking lot (block 23) reached peak utilization between 9:30 AM and 10:00 AM. Although the Ludlow Senior Center did not average above 44% throughout the survey period it did average 89 % during the peak hours of 9:00 AM and 3:00 PM as seen in Figure 4. The Parking Accumulation Study was not coordinated with the Senior Center prior to data collection. As a result parking totals may not reflect the event specific conditions of this land use.

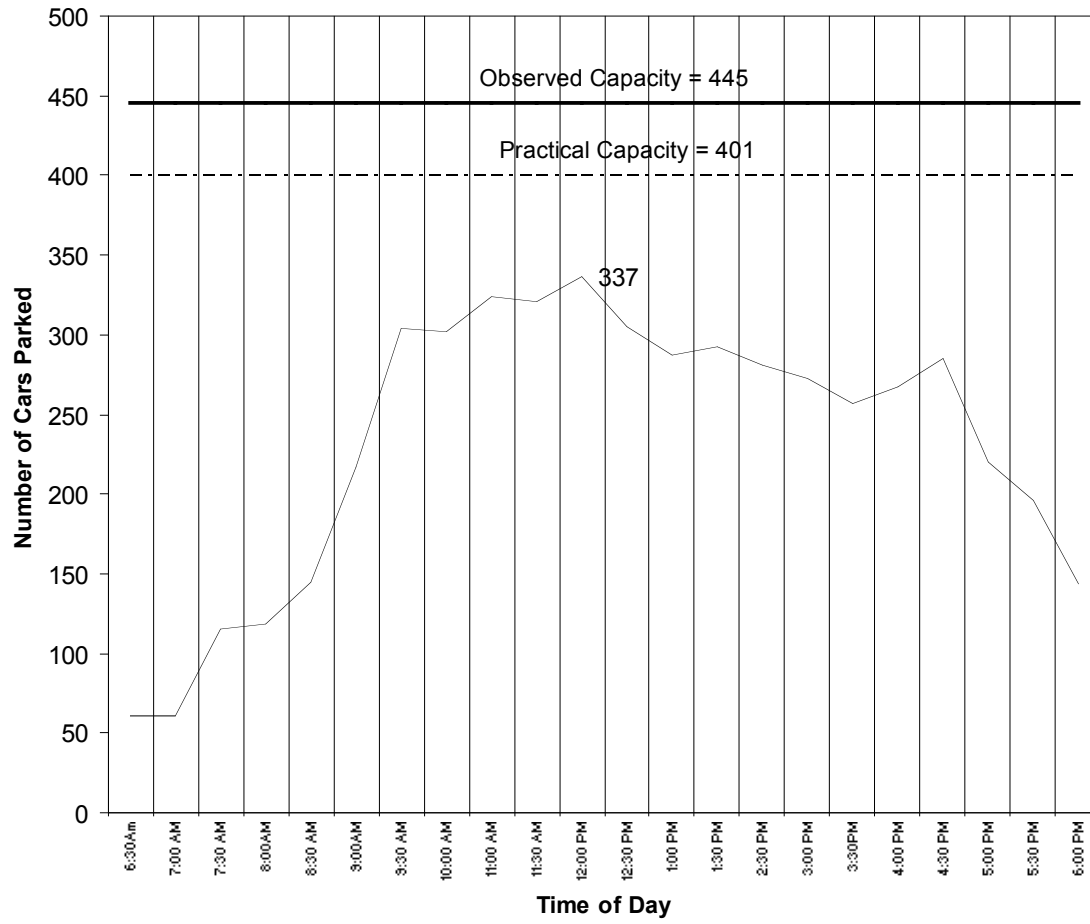
**Figure 3
Ludlow Senior Center**



On and off-street parking areas in the vicinity of the Senior Center were observed to be very well utilized during the peak hours of occupancy. This indicated that parking capacity in this area may not be sufficient to absorb the additional parking demand created by special events at the Senior Center.

The accumulation of total spaces can be seen in Figure 5. The peak demand for parking spaces occurs at 12:00PM with 337 vehicles parked. This constitutes 84% of the practical capacity of 401 spaces.

Figure 5
Parking Accumulation



RECOMMENDATIONS

Overall, parking in the study area is not evenly distributed throughout the area as there appears to be concentrations of on-street parking in certain areas. Drivers were also observed to prefer parking in lots as opposed to on-street locations throughout the survey area. This indicates that drivers are unwilling to park any distance from their desired locations. The increasing need for parking spaces due to expansion of the school and future growth within this area will require parking demand management in the short term and increasing the parking supply in the long term.

The Town of Ludlow may wish to consider the following recommendations on improving the existing parking conditions within the study area:

- Maximize the efficiency of existing on-street parking areas in marked areas and delineating spaces in unmarked areas.
- Reconfigure the Ludlow School Department lot (block 2). Designate a portion of the school parking as a pick-up and drop-off area for students. Displaced employees could be directed to park at other convenient spaces designated by the Town in the vicinity of the school.
- Replace existing parallel parking spaces on the eastern side of Chestnut Street with angle parking spaces. This would increase the on-street parking supply from 22 to 37 spaces in front of The Boys Club and Playing Fields. In order to minimize vehicle conflicts as a result of the change to angle parking it is also recommended that Chestnut Street be changed to one-way traffic flow in the southbound direction.

The PVPC has committed to study the effects of changing Chestnut Street to one-way traffic flow. Traffic count data will be collected in the near future and summarized in a separate report. Recommendations to improve operations at the intersection of Chestnut Street with East Street and enhance the safety of pedestrians crossing East Street will also be included as part of this report.