



Residential Parcel Deliveries: Evidence from a Large Apartment Complex

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Abstract

E-commerce has been associated with a remarkable growth of home deliveries of parcels, in the line of 15% per year in the United States. However, there is limited evidence about the characteristics of such deliveries at the destination level. The project collected detailed daily parcel delivery data from a large apartment complex in Northern New Jersey from January 2016 and in an ongoing fashion. This data includes the dates, the number of deliveries and the carrier. Each apartment unit generates about 1.5 parcel deliveries per week, which is about 0.5 to 0.6 deliveries per resident per week.

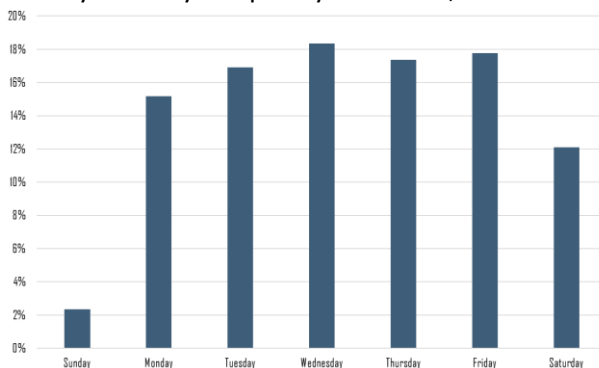
Scale and Scope of Parcel Deliveries

For 2016 (January to December), a total of 23,613 parcels were delivered. This accounts for 1,967 deliveries per month, 454 deliveries per week and 65 deliveries per day. On a per apartment unit basis, 1.53 parcel deliveries were done per week.

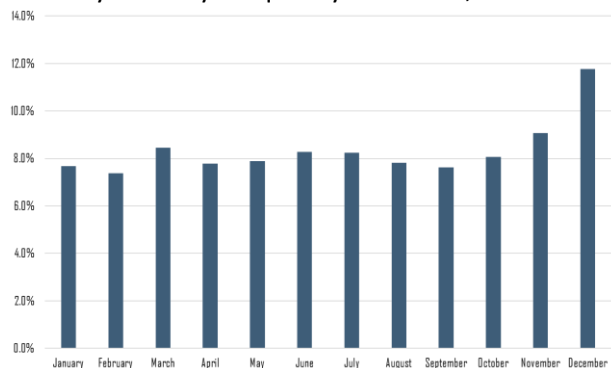
Weekly and Monthly Deliveries

The observed frequency of parcel deliveries during weekdays is relatively uniform with an increase until the Wednesday peak of 19% of all deliveries and then a gradual decline. Only 14.4% of parcel deliveries are made on weekends, with Sundays being the lowest day (2.3% of all deliveries).

Weekly Delivery Frequency of Parcels, 2016



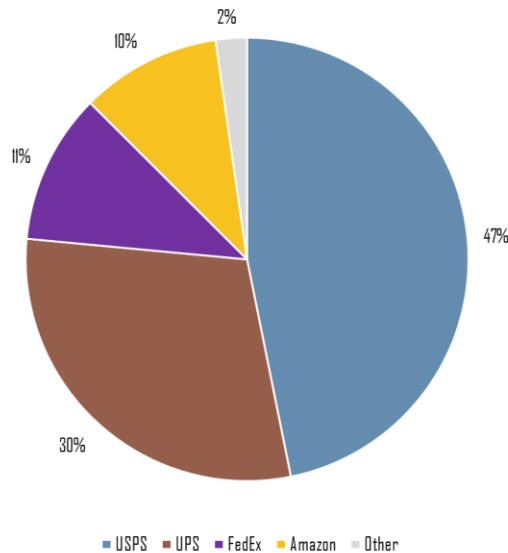
Monthly Delivery Frequency of Parcels, 2016



The monthly frequency of deliveries is in line with the retail cycle, with November and December being the peak months (9.1% and 11.8% respectively) and February accounting for the lowest number (7.4%). For the rest of the year, the frequency is quite consistent, underlining that home deliveries support a wide array of consumption, from discretionary (peak in November and December) to standard such as food items (home deliveries of food and groceries has grown substantially), seasonal clothing or electronic goods.

Carriers

The United States Postal Service still accounts for 47% of all parcel deliveries, underlining the importance of a low-cost shipping alternative. The specialized parcel companies, UPS and FedEx, account for 30% and 11% of deliveries respectively. They usually fill the niche of the deferred express deliveries.



Parcel Deliveries by Carrier for the Sampled Apartment Complex, 2016

The month of January 2015 revealed no deliveries made directly by Amazon, while for the sample in 2016 it accounted for 10% of the parcel deliveries. It remains to be seen if the market share of Amazon in parcel deliveries will increase, but the prospects are positive since it accounted for 6% of the parcel deliveries in January 2016 and for 14.7% of the deliveries in July of the same year.

Key Points

- Each apartment unit generates about 1.5 parcel deliveries per week. This is about 0.5 to 0.6 deliveries per resident per week.
- Comparing January 2015 with January 2016 and January 2017 reveals a consistent annual growth of 17% of parcel deliveries, which is in line with the 15% annual growth of online retail sales in the United States.
- Parcel deliveries during weekdays are relatively uniform with an increase until the Wednesday peak of 19% of all deliveries.
- Only 14.1% of parcel deliveries are made on weekends, with Sundays being the lowest activity day (2% of all deliveries).
- The months of November and December are peak periods for home deliveries, with 20.9% of all deliveries. February is the month of lowest activity with 7.4% of home deliveries.
- There is a notable decline of home deliveries in the week around major federal holidays such as Memorial Day, the 4th of July and Labor Day.
- The United States Postal Service still accounts for 47% of all parcel deliveries.
- The specialized parcel companies, UPS and FedEx, account for 30% and 11% of deliveries respectively.
- Amazon is a new entrant that accounts for 10% of all parcel deliveries and the only private provider offering 7-day deliveries.