The Essential Role of the United States Postal Service in American Daily Life

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Abstract

The role of the USPS is vital for the U.S. economy, consumers, and the mail services industry to serve 153 million residents, offices, and businesses at every corner of the country. Over the years, the USPS has created major breakthrough innovations that have significant applications for the way Americans do business in the public and private sectors. Without receiving tax dollars, the USPS creates, expands, and maintains a sophisticated infrastructure that no other business entity can provide. The mail services industry is facing a challenging time: E-commerce is growing and businesses are fiercely competing by lowering shipping costs, cutting transit time, and introducing same-day as well as Sunday deliveries. In contrast, the USPS raised prices and is proposing cutting back services. Since the U.S. mail services industry is highly interdependent, the operational and price changes of the USPS will hurt American businesses, e-commerce, entrepreneurs, and customers, which in turn will have negative impacts on USPS revenues and its future. Given the current trends of consumer and business expectations, the USPS needs to be innovative to create services instead of scaling back their essential operations. Furthermore, the USPS needs to maintain and preserve the high standard and fast services for First-Class Mail, which contributes to the largest share of revenues and the highest profitable mail segment for the USPS.

Summary and Main Findings

The USPS has evolved over centuries to create many groundbreaking innovative products that are essential to American daily life and that provide significant contributions to the U.S. economy. At no cost to taxpayers since the phase-in of its reorganization was completed in 1982, the USPS has built a deeply rooted infrastructure to service everyone at every corner of the country that no other service provider can create or maintain at its current size and scope. As a result, the mail services industry in the U.S. becomes an interdependent industry with three major players. The role of the USPS becomes more important than ever. The applications of USPS innovations span across industries from the public sector to the private sector. Furthermore, the exponential development of e-commerce, especially in the retail sector, underscores the essential role of the USPS. The development of the Internet and increasing online activity has both negative and positive impacts on the mail services industry. While consumers have moved certain daily activities such as bill payments and catalogue orders online, demand for physical deliveries are inevitably rising. It is becoming clear that the dividing line will fall between communications consisting of "pure information" – which can be switched to e-media with no loss of value – and those centering on a physical object (a package, a book, or a greeting card), which cannot. The success of small

¹ The research for this study is supported by Greeting Card Association (GCA). All analyses and views expressed in the study are those solely of ndp | analytics.



and large e-commerce businesses rely heavily on the distribution channels and delivery systems that the USPS provides. Once again, USPS services and innovations will be necessary for growth in the economy.

Main findings of the report are:

- 1. The sophisticated infrastructure of the USPS is indispensable to the U.S. mail services industry and American consumers. At no cost to taxpayers, the USPS:
 - Serves 320 million people in 153 million addresses of residences, offices, and businesses across 3.8 million square miles. No other service provider is able to create and maintain such an infrastructure.
 - First-Class Mail accounts for the largest share of USPS total revenues, averaging 46.3% of total revenues during FY2008-2013. First-Class Mail is also the largest profitable segment for the USPS, with an average 213.6% cost coverage (revenues divided by attributable costs) and 23.3 cents contribution per piece (revenue per piece minus attributable cost per piece) during FY2008-2013.
 - Employs nearly 490,000 career workers and 137,000 non-career workers, owns a fleet of 211,654 vehicles, and covers 1.2 billion miles annually to deliver 158.4 billion pieces of mail and packages six days a week, 52 weeks a year.
 - Creates, expands, and maintains innovative products and services such as mapping, address, and ZIP code systems. The applications of the USPS innovations are far reaching. For example, the 40,000 ZIP codes and 40 million ZIP+4 code systems have benefitted national security, social safety, and businesses.
- The U.S. mail services industry is interdependent, led by the USPS and followed by UPS and FedEx. Both FedEx and UPS rely on the USPS infrastructure for final deliveries to residences and businesses in the cities, suburbs, and rural areas.
 - FedEx SmartPost, the fast growing unit in the FedEx Ground Segment, relies 100% on the USPS to deliver their packages Monday through Saturday to all residential addresses in the U.S., including P.O. boxes and military destinations.
 - UPS SurePost, a convenient and cost-effective method for high-volume shippers, relies 100% on the USPS for final delivery of their packages to all states, U.S. territories, P.O. boxes and military destinations.
 - The USPS in 2013 purchased over \$1.9 billion in services from FedEx (the largest vendor) and UPS (the 10th largest vendor) to transport mail for the USPS.
- 3. The role of the USPS is essential to e-commerce and the U.S. economy.
 - E-commerce is growing exponentially and is expected to continue growing across manufacturing, services, wholesale, and retail sectors. While electronic payments reduce mailing activities, e-commerce businesses rely on mail services to deliver their products to customers' front doors.
 - Shipment costs account for a significant amount in retail e-commerce (e.g., 8-9% of Amazon revenues and 7% of Netflix revenues). E-commerce companies are working with USPS, FedEx, and UPS for a faster, cheaper, and more convenient delivery method to offer their customers. Same day delivery and Sunday deliveries are becoming a trend in large cities.
 - E-commerce businesses are vulnerable to changes in shipping prices and operations.

Given the dynamics of social and economic developments, the combination of price hikes and the elimination of Saturday delivery proposed by the USPS would be a major setback for the country. By reducing mail delivery and pick up services from six days to five days (a 16% operational reduction), the USPS will create bottlenecks and delays of communications,



payments, and shipments for American consumers and businesses. The heavier volume of mail to be picked up and delivered in the following weekdays will have negative spillover effects to other mail and parcel classes. Consequently, the USPS could sacrifice its competitive advantage by reducing the level of service desired by its customers. Therefore, cuts will affect mail volumes and the USPS revenues negatively. The net benefits of cutting back services including the proposal of Saturday delivery elimination are not guaranteed.

Characteristics of the U.S. Postal Service and Mail Services Industry

The mail services industry in the U.S. consists of three large interdependent suppliers – the USPS, UPS, and FedEx.² The USPS has been self-financing its infrastructure investment and operations since 1982 when the USPS last received public service subsidies. Both UPS and FedEx rely on the sophisticated distribution, mapping, and ZIP code systems of the USPS to deliver packages to nearly 153 million destinations all year round. The industry is more interdependent than ever, leveraging each other player's capacity with complementary product offerings and services. The USPS is a significant customer as well as a major vendor of FedEx and UPS to process, transport, and deliver mail and packages to final destinations, Mondays thru Saturdays and even Sundays. In its 2013 annual report, FedEx stated that any disruptions or modifications in services by the USPS could have an adverse effect on its operations and financial results. The cohesion within the industry is vital to its survival and efficiency.

Revenues and Volumes: The mail services industry generated over \$167 billion revenues in 2013 and handled more than 550 million pieces of mail and packages on a daily basis. The USPS accounted for more than 40% of the industry revenues and 95% of daily volumes (Table 1).

Table 1. Revenues and Average Daily Volume, 2013³

	USPS	UPS	FedEx
Revenues (millions)	\$67,318	\$55,438	\$44,287
Average Daily Volume (millions)	523.0	16.9	10.2

USPS operations have increased exponentially over the past decades. In 1890, the Post Office Department (the former entity of the USPS) handled 4 million pieces of mail, operated 62,401 Post Offices and facilities, and generated nearly \$61 million revenues.⁴ The Post Office Department was transformed into the United States Postal Service (USPS) in 1971 to be an independent establishment of the executive branch of the Government of the United States. In that year, the USPS handled about 87 billion pieces of mail, operated nearly 32,000 Post Offices and facilities, and generated \$8.8 billion in revenues. The USPS phased out the general public service subsidy and has been financially independent since 1982.⁵

Mail Services industry operations in recent years reflect the growing e-commerce trend and online activities along with the declining bill payments and personal correspondence. First-Class Mail, Standard Mail, and Periodicals volumes are

² DHL, a unit of Germany's Deutsche Post, has no longer operated domestic services in the United States since 2008.

³ Revenues and Volume come from USPS, FedEx, and UPS 10-K Reports 2013.

⁴ US Postal Service. 2012. "The United States Postal Service: An American History, 1775-2006."

⁵ Ibid.



declining while the USPS Shipping & Packages Services segment as well as UPS and FedEx shipments are rapidly increasing.

While bill payments and many other transactions have transitioned to the Internet and e-media outlets, physical mail is still viewed as a necessity in the eyes of many Americans. According to the FY2012 Household Diary Study conducted by USPS, personal correspondence mail, which includes personal letters, holiday and non-holiday greeting cards, invitations/announcements, and other personal correspondence, constitutes over 36% of total First-Class correspondence mail volume. This indicates the true value of personal relationships that are maintained via physical mail service.

During FY2013, the USPS generated \$67.3 billion revenues by servicing 158.4 billion pieces of mail and packages totaling 20.5 billion pounds. The USPS revenues in 2013 declined by 10.2% and the number of pieces declined by 21.9% from 2008 figures, reflecting a 15.2% price increase from an average \$0.369 per piece in 2008 to \$0.425 per piece in 2013. First-Class Mail accounts for the largest share of total USPS revenues, averaging 46.3% of total revenues, 44.1% of total volume, and 16.2% of total weight during 2008-2013. Not only the largest share of USPS total revenues, First Class Mail is also the mail segment with the highest profit margin for the USPS. During FY2008-2013, the cost coverage (revenue divided by attributable cost) of First-Class Mail was 213.6% compared to 158.0% of Standard Mail and 125.8% of Shipping & Package segments.6 Furthermore, contribution per piece (revenue per piece minus attribute cost per piece) of First-Class Mail increased from 20.8 cents per piece in FY2008 to 23.3 cents per piece in FY2013. While accounts for one-quarter of total revenues, Standard Mail accounts for nearly half of total volumes and 42% of total weights during FY2008-2013. Shipping and packages accounts for 16.1% of total USPS revenues, 1.9% of total volumes, and 25.6% of total weights (Table 2).

Table 2. USPS Revenues, Volume, and Weight, FY2008-137

Panel A. Revenues (\$ millions)

	2008	2010	2013	Average Share (2008-2013)
Total All Mail	\$74,932	\$67,052	\$67,318	100.0%
First-Class Mail	\$36,156	\$32,111	\$28,152	46.3%
Standard Mail	\$19,939	\$16,728	\$16,915	25.4%
Shipping & Packages	\$10,529	\$10,156	\$12,515	16.1%
Periodicals	\$2,295	\$1,879	\$1,658	2.8%
International Mail	\$2,380	\$2,388	\$3,015	3.8%

Panel B. Volume (number of pieces; millions)

	2008	2010	2013	Average Share (2008-2013)
Total All Mail	202,703	170,859	158,384	100.0%

⁶ We adjusted the data in the Cost and Revenue Analysis to be consistent with the USPS mail reclassification changes. See more details in 2013 Report on Form 10-K USPS.

⁷ US Postal Service, 2013 Report on Form 10-K; U.S. Postal Service, Public Cost and Revenue Analysis, various reports.



First-Class Mail	90,671	77,592	65,834	44.1%
Standard Mail	98,350	81,841	80,890	48.9%
Shipping & Packages	3,346	3,057	3,711	1.9%
Periodicals	8,605	7,269	6,359	4.2%
International Mail	835	594	902	0.5%
Average Daily Volume	667	563	523	-

Panel C. Weight (pounds; millions)

	2008	2010	2013	Average Share (2008-2013)
Total All Mail	24,237	20,687	20,468	100.0%
First-Class Mail	3,910	3,451	3,197	16.2%
Standard Mail	10,685	9,043	8,208	42.3%
Shipping & Packages	5,502	5,006	5,912	25.6%
Periodicals	3,677	2,778	2,422	13.4%
International Mail	282	243	455	1.7%

Panel D. Cost Coverage (Revenue / Attribute Cost)

	2008		2013	Average (2008-2013)	
Total All Mail	167.9%	164.8%	168.4%	167.0%	
First-Class Mail	210.4%	208.8%	221.6%	213.6%	
Standard Mail	161.5%	151.5%	160.9%	158.0%	
Shipping & Packages	121.9%	124.8%	130.8%	125.8%	
Periodicals	84.0%	75.5%	76.1%	78.5%	
International Mail	121.6%	149.1%	150.5%	140.4%	

United Parcel Service (UPS), the second largest supplier, generated more than \$55.4 billion in revenues in 2013, a 7.7% increase from its revenues in 2008. The UPS domestic segment accounts for nearly two-thirds of total revenues. During the period between 2008 and 2013, revenues of the domestic segment increased by 8.9% and revenues of the international segment increased by 10.1%. The average daily volume was 16.9 million packages, a 9% increase from 15.5 million packages per day in 2008. The volumes of the domestic segment and international segment increased by 4% and 29%, respectively, between 2008 and 2013. The implicit revenue per package slightly declined over the period 2008 and 2013 (Table 3).

Table 3. UPS Revenues and Daily Volume, FY2008-20138

2008 2010	2013	Growth 2008-2013
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⁸ UPS 10-K 2013.



Total Revenues (\$ millions)	\$51,486	\$49,545	\$55,438	7.7%
Domestic Package	31,278	29,742	34,074	8.9%
International Package	11,293	11,133	12,429	10.1%
Supply Chain & Freight	8,915	8,670	8,935	0.2%
Average Daily Volume (000)	15,539	15,574	16,938	9.0%
Domestic Package	13,857	13,286	14,405	4.0%
International Package	1,963	2,288	2,533	29.0%
Supply Chain & Freight	40	40	42	5.1%

FedEx generated nearly \$44.3 billion in revenues in 2013, a 16.7% increase from its revenues in 2008. The revenues of FedEx Express segment, accounted for nearly two-thirds of total revenues, increased by 11.3% from \$24.4 billion in 2008 to \$27.2 billion in 2013. The revenues of the FedEx Ground segment, accounting for nearly 25% of total revenues and including FedEx SmartPost that relies solely on the USPS distribution channel, increased 56.7% from \$6.8 billion in 2008 to \$10.6 billion in 2013 (Table 4).

The average daily volume of FedEx increased by 47.6% from 6.9 million pieces in 2008 to 10.2 million pieces in 2013. During the period between 2008 and 2013, the volume of FedEx Express increased by 10.4% and the daily volume of FedEx Ground increased by 86.6%. The average price per piece remained relatively unchanged in the FedEx Express segment but dropped by 16% in the FedEx Ground segment (Table 4).

Table 4. FedEx Revenues and Daily Volume, FY2008-20139

	2008	2010	2013	Growth 2008-2013
Total Revenues (\$ millions)	\$37,953	\$34,732	\$44,287	16.7%
FedEx Express	\$24,421	\$21,555	\$27,171	11.3%
FedEx Ground	\$6,751	\$7,439	\$10,578	56.7%
FedEx Freight	\$4,934	\$4,321	\$5,401	9.5%
FedEx Services	\$2,138	\$1,770	\$1,580	-26.1%
Average Daily Volume (000)	6,901	7,002	10,184	47.6%
FedEx Express	3,536	3,479	3,904	10.4%
FedEx Ground	3,365	3,523	6,280	86.6%
FedEx Freight	79	82	86	7.5%

<u>Infrastructure</u>: The USPS' rich network is displayed through its daily operations, deeply rooted infrastructure, and access to resources. Indeed, the USPS is the only organization in the country that has the resources, network infrastructure, and logistical capability to deliver over 158 billion pieces of mail and packages to everyone, everywhere across the country.

The USPS created and manages a sophisticated ZIP code system that currently contains more than 40 million unique numbers (ZIP+4) to service 153 million delivery points across the country. The USPS is also responsible for assigning new addresses for new homes and to change addresses when residents and businesses move. In 2013, the USPS processed

⁹ FedEx Annual Report 2013.



38.8 million address changes and added 773,882 new delivery points to the network. The USPS currently employs a fleet of over 211,000 vehicles that travel more than 1.2 billion miles per year transporting and delivering mail and packages along 225,000 delivery routes.¹⁰

The USPS has a billion retail customers that visit their 35,000 retail offices around the country annually. In addition to servicing mail and packages, the USPS also offers other services that are essential to Americans. These services include accepting passport applications, issuing money orders, providing selective service registration forms, and distributing federal and state tax forms. Many post offices also sell shipping supplies, postcards, greeting cards, and gifts.

Led by the USPS in conjunction with UPS and FedEx, the existing combined infrastructure creates a mail and package delivery system for the United States that would be extremely difficult and very expensive to replicate. The USPS has joint ventures with UPS SurePost and FedEx SmartPost to deliver packages to customers in cities, suburbs, and rural areas where UPS and FedEx cannot reach with their current infrastructure and operations. The industry altogether employs more than 1.3 million individuals, nearly 415,000 vehicles, and nearly 1,200 airplanes to service U.S. mail to and from 220 countries and territories around the world. The USPS accounts for nearly half of the workforce and half of the number of vehicles (Table 5).

Table 5. Selected Indicators of USPS, UPS, and FedEx, 2013¹²

Industry Landscape	USPS	UPS (Worldwide)	FedEx (Worldwide)
Retail Offices	35,074	4,756	6,300
Vehicles	211,654	103,000	100,000
Countries and Territories	180+	220	220
Air Fleet		530	649
USPS Workshare		SurePost, Mail Innovations	SmartPost
Total Employees	617,714	395,000	300,000
Total Compensation and Benefits (in millions)	\$46,708	\$28,557	\$16,570

Over the past five years, the USPS has cut back their workforce and physical assets while continuing to increase delivery points. The number of USPS career employees declined by 26.2% from 663,238 in 2008 to 489,727 in 2013. The number of delivery points increased by 2.5% from 149.2 million in 2008 to 152.9 million in 2013, while delivery routes decreased by 8% from 244,800 in 2008 to 225,152 in 2013. The number of vehicles also declined from 221,047 in 2008 to 211,654 in 2013. Retail customer visits dropped by 14.6% from 1.16 billion in 2008 to just under one billion in 2013. The number of retail post offices declined by 4.5% from 36,723 in 2008 to 35,074 in 2013. Like other businesses, the USPS launched its

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¹⁰ US Postal Service. 2014. "Postal Facts 2014."

¹¹ Ibid.

¹² US Postal Service 10-K 2013, FedEx Annual Report 2013, UPS 10-K 2013. FedEx. 2014. About FedEx Corporation (accessed April 2014). Web. UPS. 2014. About UPS: Worldwide Facts (accessed April 2014). Web.



internet site in 1994 to offer its services online. It has attracted more than 435 million customers in 2013, a 113% increase from the 2008 level (Table 6).

Table 6. USPS Infrastructure, FY2008-201313

	2008	2010	2013	Growth 2008-2013
Career Employees	663,238	583,908	489,727	-26.2%
Delivery Points (millions)	149.2	150.9	152.9	2.5%
Delivery Routes	244,800	230,600	225,152	-8.0%
Vehicles	221,047	215,625	211,654	-4.2%
Retail Offices	36,723	36,222	35,074	-4.5%
Retail Customer Visits (billions)	1.16	1.06	0.99	-14.6%
Online Customers (millions)	204.4	373.2	435.4	113.0%

<u>Interdependency within the industry</u>: The USPS is no longer a competitor with UPS and FedEx for parcel delivery. In fact, they rely on each other's core competencies and infrastructures to provide services to everyone, everywhere, at affordable costs. Both FedEx and UPS rely on the USPS sophisticated infrastructure for their final delivery destinations in the urban and rural areas. While relying on the USPS, FedEx and UPS are also two of the largest suppliers to USPS.¹⁴

The USPS is a major supplier for the FedEx Ground Segment, which contains FedEx Ground and FedEx SmartPost, to deliver its small parcels by ground delivery to their customers. FedEx SmartPost, a subsidiary of FedEx Ground founded in 1998 and rebranded in 2004, leverages the USPS delivery network to offer low-weight and less time-sensitive business-to-consumer packages. FedEx picks up packages from businesses, processes them, and then delivers to USPS facilities for final delivery by postal carriers. FedEx SmartPost relies solely on the USPS distribution channel to deliver packages to nearly 100% of U.S. residences. Currently, FedEx SmartPost employs nearly 8,000 workers in 27 distribution hubs to deliver packages Monday through Saturday to all residential addresses in the United States, including P.O. boxes and military destinations. FedEx SmartPost increased by 69% of volume and 92% of dollar revenues since 2010, compared to 20% and 39% growth respectively in FedEx Ground. By the end of FY 2013, FedEx SmartPost accounted for 32.7% of package volume and 8.8% of revenues of FedEx Ground Segment (Table 7).

Table 7. FedEx Ground Segment, FY 2010-1315

	FY 2010	FY 2011	FY 2012	FY 2013	Growth FY 2010-13
Revenues (\$ millions)	\$7,428	\$8,485	\$9,573	\$10,578	42.4%
FedEx Ground	\$6,958	\$7,855	\$8,791	\$9,652	38.7%
FedEx SmartPost	\$481	\$630	\$782	\$926	92.5%
Package Volume (000s)	1,207,746	1,325,609	1,433,141	1,599,435	32.4%
FedEx Ground	898,464	958,962	1,000,099	1,076,709	19.8%
FedEx SmartPost	309,282	366,647	433,042	522,726	69.0%

¹³ US Postal Service. 2014. Postal Facts 2014.

¹⁴ Husch Blackwell. "Top U.S. Postal Service Suppliers for Fiscal Year 2013."

¹⁵ FedEx Annual Report 2013.



Revenue Growth		14.2%	12.8%	10.5%	
FedEx Ground		13.1%	11.9%	9.8%	-
FedEx SmartPost		30.6%	24.1%	18.4%	-
Package Volume Growth	-	27.7%	30.2%	32.7%	-
FedEx Ground		6.3%	4.3%	8.1%	1
FedEx SmartPost		17.2%	18.2%	21.6%	-
Revenue Share	100.0%	100.0%	100.0%	100.0%	
FedEx Ground	93.5%	92.6%	91.8%	91.2%	
FedEx SmartPost	6.5%	7.4%	8.2%	8.8%	
Package Volume Share	100.0%	100.0%	100.0%	100.0%	-
FedEx Ground	74.4%	72.3%	69.8%	67.3%	I
FedEx SmartPost	25.6%	27.7%	30.2%	32.7%	-

Similarly, USPS also provides services to UPS. On a contract basis, UPS SurePost provides a convenient and cost-effective method for high-volume shippers, many of which are online retailers and small businesses. UPS SurePost then relies on the USPS infrastructure to deliver to 50 U.S. states, U.S. territories, P.O. boxes, and military APO/FPO destinations. UPS picks up and processes packages that are ultimately delivered by USPS carriers. UPS SurePost is transported through the UPS Ground network and uses its UPS tracking system that includes USPS delivery confirmation.

UPS Mail Innovations, established in 2001 and operating through UPS' supply chain and freight segment, is a work-share partner with the USPS and other global postal authorities to help companies to manage their outbound mail efficiently. UPS Mail Innovations provides domestic service for outbound flat mail, lightweight parcels, bound print materials, and medial mails with transit time comparable to USPS First-Class mail. UPS handles the pickup, processing, and sorting, and applies postage to the mail pieces. Then, the USPS carriers deliver the mail and parcels to the final destinations across the country.

DHL, a unit of Germany's Deutsche Post, withdrew from the U.S. markets in 2008 due to lack of scalable infrastructure and increasing competitiveness in the U.S. mail services industry. While DHL ended its domestic pick-ups and delivery services in the United States, the company remained in the international market with a work share partnership with the USPS to handle domestic shipment deliveries for those mail and packages originating from overseas.

While relying on the USPS for the final delivery, FedEx and UPS are also among the top 10 largest service providers to the USPS. Since 2000, FedEx has utilized its aircraft capacity during the daytime to transport Express Mail, Priority Mail, and First-Class Mail for the USPS. In FY2013 alone, FedEx received nearly \$1.8 billion in payments from the USPS, accounting for 4% of FedEx operating revenues and 2.5% of the USPS operating expenditures. After twelve years of previous contracts, FedEx won another seven-year contract with the USPS to provide transportation and delivery services at reduced rates compared to their previous agreements. Also in FY2013, the USPS purchased \$129.3 million in services from UPS, its 10th largest vendor, accounting for 0.23% of UPS operating revenues and 0.18% of USPS operating expenditures. ¹⁶

¹⁶ Estimates based off of data from USPS, FedEx, & UPS 10-K reports from 2013.



The interdependency and multi-segment structure of the mail services industry magnify the complexity of the cost-benefit analyses and therefore the actual cost savings of the ongoing discussions and proposals to cut the USPS services, including Saturday delivery packages and/or mail. The USPS currently utilizes its heavily invested infrastructure to deliver mail and packages for the USPS, FedEx, and UPS customers in all roughly 40 million ZIP+4 codes, six days per week all year round. As stated in the recent Postal Regulatory Commission report in April 2014, the USPS current workload has reached its full capacity. Any operational change of one mail segment would lead to a delay of delivery in the following two working days of that segment as well as other segments.¹⁷ Thus, an elimination of Saturday delivery will cause a significant delay for the mail and package delivery in the following days. In order to reduce time delay and shortages in staffing, the USPS would have to hire and train additional part-time workers to pickup, process, and deliver mail and packages on Mondays and Tuesdays. Therefore, a portion of cost savings on Saturday delivery elimination will be spent on additional workers on Mondays and Tuesdays. Furthermore, the delay will affect the demand of mailers negatively and therefore will have an adverse effect on the USPS revenues. A quantitative analysis is needed to estimate the magnitude of the decline of the demand in First-Class Mail, Standard Mail, and Shipping & Packages Services and therefore the USPS revenues. A portion of the savings will be canceled out by the decline in revenues. Lastly, it is unclear what type of mail and packages will be delivered or eliminated on Saturdays. Package and mail segments all share the fixed and variable costs of the carrier and vehicle-related expenses. By eliminating delivery of a specific, single mail segment, the USPS does not save the entire Saturday delivery costs. The USPS carriers and vehicles will still be on the road to deliver other types of mail and packages, including those that the USPS delivers contractually for other private carriers and mailers. As a result, the cost savings could be negligible. In sum, a detail of the proposal, mailers' behaviors, and the cost structure of mail and package segments are necessary to be incorporated in a full cost-benefit analysis to assess the cost savings of the elimination of Saturday delivery.

Innovative Products and Services

Over the years, the USPS has created innovative products and services transforming the mail services industry to be faster, more productive, and more cost-effective. In addition, the innovative products and services such as the inventions and the improvements of the ZIP code, mapping, and address systems provide an invaluable backbone infrastructure for other industries throughout the world. Without the USPS and its operations, those essential systems will be disrupted and abandoned. Furthermore, the image of the USPS has its own brand and preserves a symbol of the United States. In many towns and cities, post offices are landmarks and places for social gathering. Postal carriers have been seen as trusted friends of the communities.

The USPS is the originator of the national address system and the national mapping system. Over the years, the Post Office has been providing many unique services to the public such as selective service form registration, military recruitment, and income tax forms distribution. Other Post Office initiatives also have been credited with initial developments of crucial American systems. For example, USPS postage policy for newspapers was one of the most important elements establishing a robust national press industry.

¹⁷ United States of America Postal Regulatory Commission. 2014. "DSCF Standard Mail Load Leveling." Advisory Opinion on Service Changes Associated with Standard Mail Load Leveling. March 26, 2014. Docket No. N2014-1.



The development of the Post Office mail delivery infrastructure has evolved from stagecoach delivery in the late 18th century when it was authorized by Congress, to railroad delivery in the mid-19th century, to automobile and truck delivery in the late-19th century, and to aviation delivery in the early 20th century (Table 8). Like other Post Office initiatives, its development has contributed to the national transportation system as a whole.

Table 8. USPS Mail Deliveries over the Years¹⁸

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Stagecoach	 First government-sponsored stagecoach service began in 1785 when it was authorized by Congress with intention of having mail transported by stage carriers Purpose of making transportation between different regions of the Union less expensive and less difficult Postal subsidies accounted for from a third to a half of the stagecoach industry's total revenues
Post Roads	 Clause in Constitution gave Congress power to "establish Post Offices and post roads" which became skeleton of distribution network covering the nation By mid-19th century, post roads stretched over 150,000 miles connecting 13,468 post offices to link the country together Postal road clause and Good Roads Movement created the national road network standards that we have adopted today
Railroads	 Congress passed a law in 1838 declaring every railroad in the U.S. a post road Increased use of railroads by the Post Office greatly contributed to development of the industry
Vehicles	 Automobiles and motor wagons started at the turn of the 20th century The Post Office Department motorized more than half of residential routes during the 1950s-60s with Jeeps and sit-stand trucks Long-life vehicles were introduced in 1987
Air	 US Aerial Mail Service established in 1918, offered cities to build their own facilities and investment in infrastructure First government entity to promote commercial air transportation

The innovative initiatives of the USPS have come at zero cost to American taxpayers since 1982 when the U.S. Post Office became responsible for its own financial budget. By using its own revenues, the USPS has invested in numerous technological improvements to handle mail efficiently. The USPS barcoding system enables the Post Office to process mail and packages and to allow customers to track their mail and packages on a timely basis. Since the 1980s, the USPS modernized their manual sorting and processing procedures to automatic and robotic systems. In the past ten years alone,

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¹⁸ US Postal Service, Office of Inspector General. 2012. "Postal Service Contributions to National Infrastructure."



the USPS has brought-to-market many innovative products and services such as the Forever Stamp, Premium Mail Forwarding Service online, Every Door Direct Mail, PostalOne!, and Click-N-Ship (Table 9).

Table 9. USPS Major Innovations Over the Past 30 Years¹⁹

	Major Innovations			
Technology	Barcoding: Intelligent Mail Barcode (2009) – allows customer to track mail from point of origin to destination Delivery Input/Output Subsystem barcode Sorters (DIOSS) (2000) – upgraded delivery barcode sorter Package barcode sorting systems (1992) – processes pre-barcoded parcels and applies barcodes to non-barcoded parcels Optical Character Reader (OCR) (1982) – reads address automatically and prints barcode Remote video encoding (1992) – lifts image of non-machine-readable address for transmission to remote station for reading by human operator; keyed-in data transmitted back to processing plant for application of correct barcode. Robotics: Robotic tray handling systems (1997) – automates the sorting and loading of trayed letter mail for transportation Small parcel and bundle sorters (1988) – uses conveyor system to transport mail to specific bins Automatic sorting and processing: Automatic Package Processing System (APPS) (2004) – uses an OCR/barcode reader/video coding system to sort and process nearly any package First fully Automated Flat Sorting Machine (AFSM) (1999) – does not require any human labor to sort flats into delivery bins Multiline Optical Character Readers (MLOCRs) (1992) – modified OCRs which automatically analyze illegible handwriting on letters			
Products	 Forever Stamp (2007) – can be used to mail letters regardless of when the stamps are purchased/used and no matter how prices may change in the future Priority Mail Flat Rate (2004) – shipping option where the consumer pays one rate no matter the weight of the package or envelope (up to 70 lbs.), greatly simplifying shipping for consumers and businesses PC Postage (1998) – digitally-encoded two-dimensional barcodes that customers can print directly onto envelopes and address labels 			

¹⁹ US Postal Service. 2012. "The United States Postal Service: An American History, 1775-2006."

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Services	Premium Mail Forwarding service (2012) – allows consumers to set up mail forwarding			
	online rather than at the Post Office			
	Every Door Direct Mail (EDDM) (2011) – online service which allows businesses to target specific areas with direct mailing campaigns			
	USPS.com iPhone app (2009) – free app for postal services on iPhone, and later Android			
	Automated Postal Centers (APCs) (2004) – provide self-service to customers in post offices with an integrated scale and touch screen			
	PostalOne! (2004) – gives businesses online service for mail entry, payment, tracking, and reporting			
	Click-N-Ship (2002) – lets customers access USPS services and shipping online			
	Electronic Address Correction (ACS) (2007)— allows bulk mailers to receive address			
	corrections electronically, rather than by return of the piece with a correction label; saves both			
	the USPS and the mailer a considerable amount of time and money			
	the oor o and the mailer a considerable amount of time and money			
Infrastructure	11-Digit ZIP Code (1990) – used internally to sort mail according to delivery order within neighborhood, allowing for faster mail delivery			
	Expanded ZIP Code (ZIP+4) (1983) – allows mail to be sorted to small geographic segments such as city blocks or a single building			

The sophisticated ZIP code system is the most valuable invention for the public and private sectors. The Post Office Department in May 1943 began a zoning address system in 124 largest cities. The initial system had one or two numbers between the city and state. Twenty years later, the Post Office Department implemented the Zoning Improvement Plan (ZIP) Code in response to the growing business mail segment, including utility bills and payments, bank deposits and receipts, advertising, magazines, credit card transactions, mortgage bills and payments, and Social Security checks. A five-digit ZIP code system was established in July 1963 and each address was assigned with a ZIP code. By 1967, the Post Office Department required mailers of second- and third-class bulk mail to presort by ZIP code. In 1983, the ZIP+4 code system was established to handle the continued growing population and addresses.²⁰ Today, the US mail system contains over 40,000 ZIP codes and over 40 million ZIP+4 codes (Table 10).

Table 10. USPS Innovation of the ZIP Code System²¹

	Timeline				
	1943 1963 1983 2013				
	Zone address system			Over 40,000 ZIP	
	created in 124 U.S.	ZIP Code system		Codes today; 40M	
Development	cities	established	ZIP+4 introduced	ZIP+4 codes	

²⁰ US Postal Service. 2012. "The United States Postal Service: An American History, 1775-2006."

CarrierRoutes. 2014. Carrierroutes.com (accessed May 2014).

²¹ US Postal Service. 2014. "Postal Facts 2014."



Number of Digits 1-2 digits 5 digits	9 digits	9 digits
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The spillover effects of USPS innovations to the public and private sectors are far reaching. The applications of the ZIP code, for example, have been seen in government, businesses, and consumers. Currently, the USPS manages approximately 40,000 valid ZIP codes and over 40 million ZIP+4 codes around the country.²² The Census Bureau uses the USPS ZIP code system to compile economic and demographic data. Additionally, the Social Security Administration assigns social security numbers based on the ZIP codes of the residents of the applications. State and local governments also rely on the USPS ZIP code system for local administrative work such as voter registrations. Similarly, many business applications rely on USPS ZIP codes for marketing and advertising analyses, security protection, and business intelligence. Consumers also benefit from the USPS ZIP code system with non-business activities. Table 11 below provides examples of spillover effects of the USPS ZIP code system to governmental agencies, businesses, and consumers.

Table 11. Spillover Effects of the USPS ZIP Code System²³

Sector	Spillovers
Government	 Federal Agencies Census Bureau – compiles economic and demographic data by ZIP code as ZIP Code Tabulation Areas (ZCTAs) for researchers and the public IRS – uses tax data to depict economic distributions by ZIP code Social Security Administration – uses ZIP codes to assign social security numbers Other federal agencies such as the National Weather Service and General Services Administration use ZIP codes in their research, administration, and public releases Congress Congressional District lookup – can search for House district by ZIP code to contact Representative State/Local Governments use ZIP Codes with voter registrations, mail-in/absentee ballots, and polling place notifications
Businesses	 Transportation/Couriers – private sector couriers such as UPS/FedEx use ZIP codes in tracking packages and setting shipping rates Marketing – online and direct mail advertising is targeted towards individuals by tracking ZIP code demographics Retailers – retail stores often ask for ZIP codes to create purchasing-pattern data of their customers Real Estate – real estate companies use ZIP codes to track home values in different

²² CarrierRoutes. 2014. Carrierroutes.com (accessed May 2014).

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²³ U.S. Census Bureau. IRS. House.gov. Weather.gov. GSA.gov.



	geographical areas and create home price/value indexes
	Insurance – ZIP Codes are used to price insurance products like car and homeowner's
	insurance
	Banking – banks use ZIP codes in their risk-based pricing models to determine base loan terms for those living in the areas
	Credit Cards – credit cards use ZIP codes as security protection through the Address Verification System, particularly for locations such as gas stations where stolen cards are frequently used
	Directory Services – websites such as Google target search results for location-specific services to users based on ZIP codes
Consumers	Store locators
	 Most websites for stores/dealers with physical locations allow customers to find nearby locations using their ZIP code
	Location-related information
	 can use their ZIP code on online directory websites to look up weather, nearby services, and other geographic information for their area
	Non-profit/academic researchers
	 Social science research which involves U.S. demographics frequently uses ZIP code-level data to measure geographic and income distributions of outcomes, in
	fields such as public health, sociology, and economics

The USPS maximizes economies of scale and scope of its infrastructure to introduce a mail system with different classes such as First-Class Mail, Standard Mail, and Shipping & Packages Services. These mail segments are differentiated based on size, weight, volume, delivery time, and material content. Although they are different mail segments, they all rely on the USPS technology and infrastructure. Indeed, First-Class Mail, Standard Mail, and Shipping & Packages Services all contribute to the infrastructure costs such as vehicles and postal carriers to deliver mail and packages in any given day. Evidence shows that the USPS has been utilizing its infrastructure's fixed costs to deliver parcels and packages for FedEx and UPS. Thus, the cost savings to skip delivery of First-Class Mail or any mail segment on Saturday or any day would be negligible. The same volume of mail and packages would still have to be delivered. The fixed costs for the USPS to deliver other mail segments to final destinations still occur regardless of including First-Class Mail or not.

E-commerce

The USPS plays a critical role in the exponential development and success of e-commerce over the past couple decades. E-commerce is defined by the U.S. Census Bureau as transactions sold on-line and e-commerce sales are sales of goods and services where the buyer places an order online. The Census currently produces statistics of e-commerce sales totals



in its "E-Stats" report for manufacturing sectors, merchant wholesale trade sectors, retail trade sectors, and selected service industries.²⁴

E-commerce total sales increased between 3 times in the wholesale sector and 26 times in the retail sector in the past decade. During the period 1999-2012, e-commerce wholesale sales increased by 323.5% compared to an 89.5% increase in total wholesale sector sales. E-commerce manufacturing sales grew by 309.7% compared to a 42.8% increase in total manufacturing sales. More impressive, e-commerce sales in the retail sector increased by 1,466% compared to a 55% increase in total retail sector sales (Table 12).

Table 12. Total and E-commerce Sales Growth Rates, 1999-2012²⁵

	Manufacturing	Wholesale	Retail	Services
Total	42.8%	89.5%	55.0%	7.5% (1)
e-commerce	309.7%	323.5%	1466.3%	21.4% (1)

⁽¹⁾ Data for 2010-2012. Census services data is not available prior to 2010.

The share of e-commerce operations has been growing across all sectors in the U.S. economy. E-commerce manufacturing sales as a percent of total manufacturing sales increased nearly three times, from 18.1% in 1999 to 51.9% in 2012. The share of e-commerce wholesale sales more than doubled, from 9.0% in 1999 to 20% in 2012. More significantly, e-commerce retail sales increased from 0.5% of total retail sales in 1999 to 5.2% in 2012 (Table 13).

Table 13. E-commerce as a Percent of Total Sales, 1999-2012²⁶

	Manufacturing	Wholesale	Retail	Services (1)
1999	18.1%	9.0%	0.5%	
2000	18.0%	10.0%	0.9%	
2005	28.3%	17.5%	2.5%	
2010	47.9%	20.8%	4.4%	2.7%
2012	51.9%	20.1%	5.2%	3.1%

⁽¹⁾ Census services data is not available prior to 2010.

As e-commerce continues to grow, shipping becomes a crucial element for operations and competitiveness. Amazon's shipping costs are between 8% and 9% of sales over the past three years and Netflix's shipping costs are estimated to be around 7% of total revenues.²⁷ To be competitive, large and small e-commerce companies such as 1-800-FLOWERS.com, Amazon, eBay, GameFly, Netflix, and Overstock are focusing on a faster, cheaper, and more convenient delivery method to offer their consumers across the country.

²⁵ U.S. Census Bureau. 2012 E-commerce Multi-sector Data Tables (Released May 22, 2014). Web.

²⁴ U.S. Census Bureau. E-Stats. Web.

²⁶ U.S. Census Bureau. 2012 E-commerce Multi-sector Data Tables (Released May 22, 2014). Web.

²⁷ Amazon 10-K 2013. Netflix 10-K 2013.



Companies have been working creatively with the USPS to allow e-commerce to thrive and operate more efficiently. eBay has entered into strategic partnerships with the USPS and other logistics companies to offer competitive products for their customers. In 2004, eBay and the USPS launched one-bill and one-click solutions for shipping costs and label printing. Currently, eBay sellers who use eBay Labels to pay for postage and print shipping labels automatically, receive USPS Commercial Base pricing along with the convenience of automated tracking and delivery notification. eBay sellers can save up to nearly 40% of domestic shipping by using USPS Savings Program.²⁸

In addition to shipping costs, e-commerce customers also expect fast delivery. eBay and the USPS joined forces to offer comprehensive, integrated shipping and label solutions to assist their customers to save money and time to ship their products. In 2011, eBay launched the Fast' N Free initiative with free shipping and fast delivery time. Surveys show that eBay users tend to prefer USPS Priority Mail (2-3 days) to UPS Ground (6 days).²⁹ Similarly, the USPS is expanding its same-day delivery from San Francisco to other cities to win business from online retailers. The USPS announced an agreement with 1-800-FLOWERS.com in December 2012 for same-day deliveries in San Francisco.³⁰ Additionally, the USPS has entered agreements with Amazon to deliver the retailer's shipments to residential addresses on Sundays in 17 selected markets, including Austin, Cincinnati, College Station, Columbus, Dallas, Houston, Indianapolis, Lexington, Los Angeles, Louisville, New Orleans, New York City, Oklahoma City, Philadelphia, San Antonio, Shreveport, and Waco.³¹

Amazon's new service is free, allowing their customers to purchase products on Friday and get them by Sunday for free. In order to be successful, Amazon would need the USPS to cover the last mile to customers. The USPS is the only delivery service that can reach all 153 million addresses across the country.

The USPS is also vital for mid-size companies such as Netflix and GameFly. In 2013, Netflix generated over \$910 million in revenues from over 6.7 million members who subscribe to the company's domestic DVD-by-mail services.³² Netflix relies exclusively on the USPS to deliver DVDs from their shipping centers and to return DVDs from subscribers. GameFly, a mail-order video-game rental company, utilizes the USPS to deliver its products as well. In 2009, GameFly filed a lawsuit against the USPS for giving Netflix favorable treatment. At the time, GameFly claimed that their mailings did not receive the same manual sorting treatment that Netflix did that prevented these discs from being broken. Additionally, while Netflix used letter-shape mailers, GameFly was then forced to use square mailers with cardboard inserts to protect their discs, resulting in a higher postage rate due to size and weight. With GameFly succeeding in its appeal, USPS charged Netflix and GameFly the same rate for their mailings. In this case, the reliance on USPS' low rates is vital to many e-commerce businesses throughout the country.

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²⁸ eBay.com. 2014. eBay: USPS Savings FAQ's (accessed April 2014). Web.

²⁹ eBay.com. 2014. Frequently Asked Questions: Shipping USPS vs. UPS (accessed April 2014). Web.

³⁰ Keane, Angela. Bloomberg. "U.S. Postal Service to Test Same-Day Delivery in New York." December 5, 2013. Web.

³¹ Business Wire. 2014. "Amazon's Everyday Delivery is Growing: Sunday Delivery Available in 15 Additional Cities through the United States Postal Service."

³² Netflix 10-K 2013.



Not only impacting large and medium-size companies, the USPS is also essential for startups and entrepreneurs. For example, Birchbox, a New York-based subscription and e-commerce company, relies exclusively on the USPS to deliver their products to their more than 400,000 customers.³³

While e-commerce is moving toward faster and cheaper delivery methods, increases in USPS pricing and cutting back operations would have direct negative impacts on e-commerce businesses that rely heavily on the USPS services. For example, Overstock.com and Netflix explicitly state in their SEC annual reports to shareholders that changes in shipping and postal rates or operations would lead to a decrease in customer's satisfaction and therefore will risk the company's ability to operate in the future. These relationships are crucial in the industry, as providers such as USPS, FedEx, and UPS constitute the largest market share of shipping and package services in the industry. Since e-commerce is a major source of revenues in the growing segment of the USPS, a declining volume will in turn have a negative impact on the USPS revenues and operations. eBay users are of one of the USPS's largest customers. Estimates also show that Netflix's postage spending accounts for approximately 20% of all revenues that the USPS generates from First-Class flats and nearly 2% of all First-Class mail revenues.³⁴

Conclusion

The mail services industry has entered a new arena. The applications of the Internet to e-commerce businesses produce both positive and negative impacts on the mail services industry. While e-commerce solutions reduce the need to mail bill payments, checks, and tax payments, online shopping and auctions create an exponential demand for cheap and fast delivery. In fact, e-commerce businesses are working with the USPS, UPS, and FedEx to deliver mail and packages at lower costs and even on Sundays.

The USPS raised the cost of mailing this year and is proposing to cut back services. While the industry and consumers need solutions for cheaper and faster deliveries, raising prices and cutting services are counter-productive and are against the market demand. The mail services industry needs to be more efficient and inexpensive through innovations and not by cutting services. "Service" means not just delivery to the customer but also easy and convenient access to the system for consumers and small businesses, as well as large mailers. The postal retail facility (whether or not USPS-managed) and the USPS city or rural carrier provide an unparalleled degree of access to the mail system.

The USPS is the backbone of the U.S. mail services industry and many other industries that rely on the infrastructure to deliver their products to final destinations. In fact, the U.S. mail services industry has become highly interdependent. Both FedEx and UPS rely heavily on the USPS infrastructure for final delivery of small packages in urban and rural areas. The USPS infrastructure has been created, maintained, and expanded over the past decades to a level that no other business entity can provide. Changes in prices and operations of the USPS will create adverse effects on companies and consumers, which in turn will have negative effects on the USPS' financial situation.

The USPS relies on its economies of scale and scope to create different mail segments. The current proposal of eliminating Saturday delivery would be counter-productive and ineffective. Since these mail segments share the infrastructure such as vehicles and postal carriers, the cost savings would be insignificant. The volume of mail and

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³³ Birchbox's Frequently Asked Questions. Web.

³⁴ CNNMoney. "Netflix to U.S. Post: Drop dead." July 12, 2011.



packages would still need to be delivered on the following days. As a result, the associated costs would still be spent and the USPS may need to hire and train additional part-time workers to handle the bottlenecks and delays in the following days. The adverse effects would be more significant when the USPS fails to satisfy their customers' expectations and the demand for services.



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