

REPORT ON
MEASURING THE BENEFITS OF RURAL POSTAL SERVICE

For

POSTAL REGULATORY COMMISSION

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I. Project Summary

The Postal Regulatory Commission (Commission) is interested in measuring the social value of the United States Postal Service (USPS in tables). As part of this measurement, the Commission seeks to quantify the benefits of the Postal Service's rural service. To establish a definition for "rural" areas, SJC looked at the U.S. ZIP Codes which are subject to Delivery Area Surcharges by major parcel carriers. In the contiguous 48 states, both UPS and FedEx have Delivery Area Surcharges and Extended Delivery Area Surcharges. Using DAS ZIP Codes as proxy for rural areas is supported by the sequence in deployment of Delivery Area Surcharges by the private parcel carriers. The parcel carriers did not have a distinction between urban, suburban and rural delivery areas, even though there was significant difference in the cost for such deliveries.

In January 1997, Satish Jindel, President of SJ Consulting Group, Inc. published a commentary in Traffic World titled "**Transforming the Parcel Industry at the Speed of Business**". This article made a case for parcel carriers to further unbundle parcel pricing and establish a rural delivery surcharge. Thereafter, in January 1999, UPS and RPS (now FedEx Ground) for the first time implemented a Delivery Area Surcharge to some 16,000 ZIP Codes. Since then, the number of such ZIP Codes has been extended to about 22,000 in 2002 and now includes about 23,500 ZIP Codes. This timing for implementation of DAS ZIPs by both UPS and FedEx Ground suggests that the first set of about 16,000 ZIP Codes were selected primarily for the rural characteristics of those ZIP Codes.

References to generic 'DAS' ZIP Codes will refer to both Extended DAS and Regular DAS ZIP Codes. Due to a lower average population density of approximately 21 people per square mile, the Extended DAS ZIP Codes are considered to be "rural" areas. This compares to 81 people per square mile for Regular DAS, about 96 people per square miles for the continental U.S. and 461 people per square mile for non-DAS ZIP Codes.

The Commission has engaged SJ Consulting Group, Inc. (SJC) to profile the DAS ZIP Codes in the continental U.S. for major parcel carriers to determine their coverage by population and estimated GDP contribution, as well as to review the cost of delivery of packages to rural areas to establish if there is a basis for rural surcharges and to review the benefits to the Postal Service for having a more extensive and frequent delivery network in rural areas.

II. Scope of Work

Quantifying the benefits of the Postal Service's rural service

This report covers tasks outlined in the Description of Services, Subsection B tasks 3-8 of SJC's engagement related to this project:

1. Major Parcel Carrier Delivery Area Surcharge (DAS) ZIP Codes - Investigate, by isolating the ZIP Codes where a DAS fee is applied (proxy for rural) by the two major parcel carriers (UPS and FedEx), and determine:
 - a) If both carriers utilize the same list of ZIP Codes for such surcharge

- b) If any ZIP Codes carry a surcharge by one carrier but not another or where the Postal Service does not provide the only regularly priced service
 - c) Delivery Area Surcharge areas with low populations are assumed to be rural
- 2. US Population in Rural DAS ZIP Codes - Investigate and estimate, by merging the combined Delivery Area Surcharge ZIP Code list with U.S. Census Bureau population data, the percentage of the United States population affected by Delivery Area Surcharges (or rural surcharges).
- 3. Delivery Cost Analysis to Rural DAS Areas - Investigate and identify the costs incurred for rural service by private carriers and by the Postal Service to:
 - a) Determine if there is a basis for the Delivery Area Surcharge (or rural surcharges)
 - b) Partially quantify the cost impact of rural service, researching wage and delivery density differentials between rural route carriers and general mail carriers and the number of rural routes
- 4. Benefits Derived by the Postal Service Rural Delivery Network - Identify and determine the benefits derived by the Postal Service by having a more extensive and frequent delivery network in rural areas subject to a Delivery Area Surcharge (or rural surcharge) than the Postal Service's private competitors.
- 5. GDP Contribution from Rural DAS Areas - Obtain estimates of local Gross Domestic Product (GDP) by population or metropolitan area and map to ZIP Codes to estimate GDP contribution of rural areas with proxied "rural" Delivery Area Surcharge as a percent of total U.S. GDP to proxy the benefit of rural service.
- 6. Written Report quantifying the benefits of the Postal Service's rural service.
 - a. Quantified benefits as determined by the project
 - b. Discussion of reasons and methodology supporting the conclusions of the Report
 - c. An assessment of limitations of information available or relied upon, or methodology, that may hamper the accuracy or completeness of the findings
 - d. Discussion of further studies that may further measure the social value of rural service

III. Major Parcel Carrier Delivery Area Surcharge (DAS) ZIP Codes

As part of Task 1, SJC reviewed the ZIP Code coverage areas affected by DAS for two major parcel carriers: UPS and FedEx. SJC used UPS and FedEx only as proxy for private parcel carriers because these two companies represent over 98 percent of the total domestic parcel market excluding USPS’ share. Moreover, the regional carriers (such as Eastern Connection in the Northeast region and OnTrac on the West Coast) operate in largely urban and more densely populated states of the country and corresponding ZIP Codes, and thereby do not have coverage to many rural areas.

The complete list of DAS ZIP Codes for UPS and FedEx include both urban and rural areas. DAS fees in urban ZIP Code areas are generally for ZIP Codes that have a higher cost of delivery due to higher cost per stop related to a number of factors including limited road access, high crime area, security delays, etc. (e.g. college campus). UPS and FedEx have two DAS categories: Delivery Area Surcharge (for this report Regular DAS) and Extended Delivery Area Surcharge (Extended DAS). Through analysis of population density, discussed below, SJC and the Commission mutually agreed to use the Extended DAS area as a proxy for “rural” delivery.

The two carriers have identical lists of ZIP Codes subject to DAS beginning in 2011. *Table 1* details the total counts by DAS charge type, as well as the exclusion of ZIP Codes which are listed by the carriers as DAS ZIP Codes, but which show as an invalid ZIP Code on the latest Postal Service valid ZIP Code list (shown as ‘Invalid’ in *Table 1*). For the remainder of the analysis, we are interested only in postal codes where both UPS and FedEx have Extended DAS, so the 19,000 Extended DAS ZIP Codes (i.e. Rural DAS ZIP Codes) are used. It is also relevant to note that these ZIP Code counts include Post Office boxes, with 2,498 included in the Extended DAS count, 3,516 included in the DAS count and 9,220 in the total Valid ZIP Codes count. APO and FPO ZIP Codes are excluded from all counts.

Carrier	UPS	FDX
Regular DAS	4,179	4,179
Invalid	21	21
Total Valid Regular DAS	4,158	4,158
Extended DAS	19,258	19,258
Invalid	258	258
Total Valid Extended DAS	19,000	19,000
Total Listed DAS ZIP Codes	23,437	23,437
Total Valid DAS ZIP Codes	23,158	23,158
Total Valid U.S. ZIP Codes*	40,906	40,906
Valid Regular DAS % of Total ZIP Codes	10.2%	10.2%
Valid Extended DAS % of Total ZIP Codes	46.4%	46.4%
Total Valid DAS % of Total ZIP Codes	56.6%	56.6%

**Note: US ZIP Code count excludes Alaska, Hawaii*

For completeness, UPS and FedEx also have different DAS (aka Remote) fees related to Alaska (AK) and Hawaii (HI), discussed in **Supplement A**. Additionally, the fee amount for Regular DAS and Extended DAS ZIP Codes also differs for Commercial versus Residential deliveries on for the mainland. *Table 2* includes a list of the 2011 DAS fees:

DAS	Commercial	Residential
Delivery Area Surcharge	\$ 1.85	\$ 2.75
Extended Deliver Area Surcharge	\$ 1.85	\$ 3.00

Source: Company Rate Guides

Based on the analysis above, the main report focuses on parcel delivery services to Extended DAS ZIP Codes, as proxy to rural areas, and restricted to the 48 continental states. Percentages and totals are in relation only to the continental U.S., unless noted. AK and HI are discussed separately in **Supplement A** due to very low population and large land area (0.7 percent and 16.5 percent of the total U.S. population and land area respectively) in the two states, which results in very different delivery requirements for each state.

IV. US Population in Rural/Extended DAS (Extended DAS) ZIP Codes

SJC estimated the percent of population in the United States affected by DAS for Task 2. Using data reported by the U.S. Census Bureau of population by ZIP Code, SJC estimates that the Extended DAS footprint contains 16 percent of the U.S. population and 73.5 percent of the land area in the continental United States. Extended DAS ZIP Codes represent 46.4 percent of valid ZIP Codes in the continental U.S.

DAS Type	Population	Land Area	Density
Regular DAS	9.3%	11.0%	80.8
Extended DAS	16.0%	73.5%	20.8
Total DAS	25.3%	84.5%	28.6
Non-DAS	74.7%	15.5%	460.8

**Notes: ZIP Codes are for both UPS and FedEx
Density is in people per square mile*

V. Delivery Cost Analysis to Rural Areas

This task is to investigate and identify the costs incurred for rural service by private carriers and by the Postal Service to determine if there is a basis for the DAS. SJC estimated and analyzed the total cost of delivery per package for rural shipments compared to urban shipments for all three carriers.

UPS

Delivery costs per piece for UPS are estimated using company expenses and driver delivery statistics. Using UPS' labor contract with the International Brotherhood of Teamsters, SJC estimated the salary and benefits of a package delivery driver. Equipment costs are estimated using driver-reported daily mileage and daily mileage rates. Labor and equipment costs sum as the total delivery cost, which is converted to an hourly rate using average driver hours and annual workdays. The number of packages delivered per hour is approximated using driver-reported statistics, separated into urban and rural delivery routes. Using the total cost per hour and the average number of packages delivered per hour for rural and urban drivers, SJC arrives at the estimated cost of delivery per package of \$1.40 for urban and \$3.10 for rural.

FedEx

FedEx Ground delivery costs are estimated using data from non-proprietary and publicly available legal documents and driver contracts. One such legal document provides average driver statistics for urban and rural drivers, including packages per day, delivery payments per stop, core zone settlement payments and van availability rates. Driver contracts provide other payments made to FedEx Ground contractors, including flex programs and performance-based bonuses. Combining these figures, SJC estimates the delivery costs per package at \$1.52 for urban and \$3.19 for rural areas.

To support these results, SJC analyzed company-reported statistics. UPS reports revenue per package of \$7.20, and FedEx Ground (excluding SmartPost) reports revenue per package of \$7.60 in 2009. Applying percentages estimated from the SJC database, the yield is adjusted for margins to focus on expense per package, and the estimated delivery cost as a percent of total expenses. Observing the volume split between urban and rural packages provides a range of delivery costs per package which is in line with our original findings.

Postal Service

The Postal Service handles most parcels via three product offerings – Priority Mail, Parcel Select and Parcel Post (while Express Mail could have parcels, it has very small revenue compared to other three and predominantly used for documents). Of these parcel dominated services, Priority Mail and Parcel Select are competitive products. Hence, USPS only reports cost of various operational activities for the market dominant product - Parcel Post.

However, with weight and cube characteristics of parcels within the three networks being similar (Parcel Select parcels used to move in the Parcel Post network prior to establishment of DDU program) and the operational effort for last mile delivery being same for all Postal Service parcels, SJC utilized the Parcel Post data as a proxy for establishing the delivery cost and the differential between urban and rural areas for all parcels of the Postal Service. Such determination resulted in SJC using the 2010 Annual

Compliance Report of the Postal Service, available through the Commission’s website, which provides details on city and rural costs of delivery for market dominant products, including Parcel Post.

The following table compares the last mile delivery cost per package for the Postal Service, including both Parcel Post and Bound Printed Matter Parcels, versus UPS and FedEx. These costs include both fixed and variable delivery costs. The costs are benchmarked to the Postal Service’s DDU rate (which represents the cost incurred by the private carriers for using the Postal Service network for final mile delivery and thereby eliminating their own network’s higher last mile delivery cost) for a 4 pound package:

Carrier	Urban	Rural
UPS	\$ 1.40	\$ 3.10
FedEx Ground/HD	\$ 1.52	\$ 3.19
USPS Parcel Post	\$ 0.87	\$ 0.57
USPS Bound Printed Matter Parcels	\$ 0.43	\$ 0.37
USPS DDU Rate	\$ 1.92	\$ 1.92

Note: DDU rate for a 4 lb. parcel in 2011

For UPS and FedEx, the delivery costs are for a combination of commercial and residential deliveries. The differential in delivery costs between urban and rural deliveries for the parcel carriers is the basis for the Delivery Area Surcharge. The cost differential between urban and rural delivery for UPS and FedEx is covered by the applicable DAS fee (e.g. 2011 Extended DAS for residential is \$3.00 excluding the \$2.45 fee for ground residential). Postal Service’s Parcel Select rate with DDU entry for a 1 pound package is \$1.85 in 2011. A comparison of Postal Service DDU entry rates with private parcel carriers’ rates for an equivalent delivery using Zone 2 for a 4 pound package shown in *Table 4* above illustrates why Postal Service workshare programs are well received by major parcel carriers.

Even though the total cost for a lightweight rural parcel shipped via the UPS and FedEx Ground services may be only \$3.00 more than parcel consolidation services of these private carriers, many shippers that utilize the consolidation services of FedEx and UPS do so because of the low value of the products shipped and willingness of consumer receiving the package to accept a day or two more in transit time for often free shipping offers for sale of such products ordered via Internet or phone.

FedEx SmartPost and UPS Basic deliveries tendered for last mile delivery to the Postal Service average between 1 and 2 days longer than in-network FedEx and UPS deliveries. While some parcel customers opt for the faster transit times and are thus willing to pay more (including Extended DAS and Residential fees where applicable) via FedEx and UPS Ground services, these deliveries are largely for higher value products and the growth continues to be greater for consolidation services as reflected by the rapid growth of FedEx SmartPost and UPS Basic and Mail Innovations.

FedEx and UPS customers that utilize their standard Ground services to rural areas do so for the following reasons:

1. Seeking faster transit times that available with FedEx SmartPost or UPS Basic
2. More enhanced visibility and/or POD capabilities
3. Daily shipping volumes are low and insufficient to meet the threshold for obtaining FedEx SmartPost or UPS Basic services
4. Lack sufficient knowledge of FedEx SmartPost or UPS Basic services to help them recognize the cost saving opportunities with these hybrid services

On the other hand, FedEx and UPS customers that are large and frequent users of FedEx SmartPost or UPS Basic consolidator services have the following attributes:

1. Cost focused due to the socio-economic status of the recipient and the low value of the products that can only support shipping using the cheapest method
2. Transit time of few extra days (1-2 additional transit days) is acceptable to the recipient of those parcels in return for the trade-off of lower pricing

The difference in the Postal Service DDU rate and the private parcel carrier rural cost of delivery is the major factor in various benefits realized by the Postal Service for having its rural delivery service without surcharges and with regular frequency, which are detailed in the following Section VI.

VI. Benefits Derived by the Postal Service from its Rural Delivery Network

This task is to identify and determine the benefits derived by Postal Service for having an extensive delivery network to the rural areas of the U.S.

The benefits of Postal Service's rural delivery network include the following:

1. Lower cost of delivery to residents and businesses in the rural areas than practical if the deliveries were made by the private parcel competitors.
2. Increased market share for the Postal Service for last mile rural deliveries due to pricing that generates increased volume tendered by workshare partners.
3. Increasingly lower unit costs for such rural deliveries to the Postal Service as higher volumes are spread across a fixed cost network.
4. Improved operational synergies and related cost efficiencies through the collection of outgoing mail and parcels while delivering. This network advantage of the Postal Service for collection of return packages from residential parcel shippers is recognized even by UPS and FedEx since within last year, both have partnered with the Postal Service to handle the first mile pickup service for such return packages.
5. Solidified market dominance for delivery to rural areas due to Postal Service being the only carrier with the most extensive network and the most practical solution for such last mile deliveries to all private sector competitors.

Benefits of Parcel Consolidation

As discussed above, the use of the Postal Service's lower cost delivery network allows parcel consolidators to deliver large volumes to the Postal Service for final delivery. Major consolidators include FedEx SmartPost, DHL Global Mail, UPS Mail Innovations, UPS Basic, Blue Package, Newgistics and Streamlite (formerly Mail Express). Of these companies, only two can utilize its own delivery network in place of workshare with the Postal Service: UPS for its Basic service and FedEx for its SmartPost service.

For UPS Basic, shipments tendered to the Postal Service are limited to certain rural ZIP Codes due to restriction in their union contracts, with the remainder traveling through UPS' network. FedEx Ground and Home Delivery Service have a network in place to delivery to rural areas but not utilized for the parcels handled in FedEx SmartPost network due to customer preference for a lower cost service. The other consolidators are built around using the Postal Service's delivery network for 100 percent of their shipments.

Clients of these consolidators include several major retailers, like Abercrombie & Fitch or Amazon.com, which ship products to consumers' homes. The 16 percent of the population that reside in the Extended DAS coverage area are also recipients of these shipments, so any consolidator serving the business-to-consumer market utilizes the rural delivery network of the Postal Service. So, while the Postal Service benefits from its current structure of the rural delivery network, the real beneficiaries of the rural delivery network are the people living and working in rural areas of the lower 48 states.

Without such service, the businesses located in rural areas will be paying about \$3.00 more per parcel and the people residing in such rural areas will be paying about \$5.45 (\$3.00 for Ext. DAS and \$2.45 for ground residential) more per parcel, or both businesses and consumers will be limited in ordering for direct delivery to their address.

Case Study – FedEx SmartPost Volume Growth 2007-Present

FedEx SmartPost is the largest parcel consolidator using the Postal Service workshare program, Parcel Select, for delivery of light weight small parcels to largely residential and rural area. SmartPost is priced lower than FedEx Ground, does not have accessorial charges for rural or residential deliveries, and is not a guaranteed service. As a result of corporate strategy, SmartPost's entire parcel volume is delivered to the Postal Service facilities for last mile delivery by USPS rural carrier or city carrier.

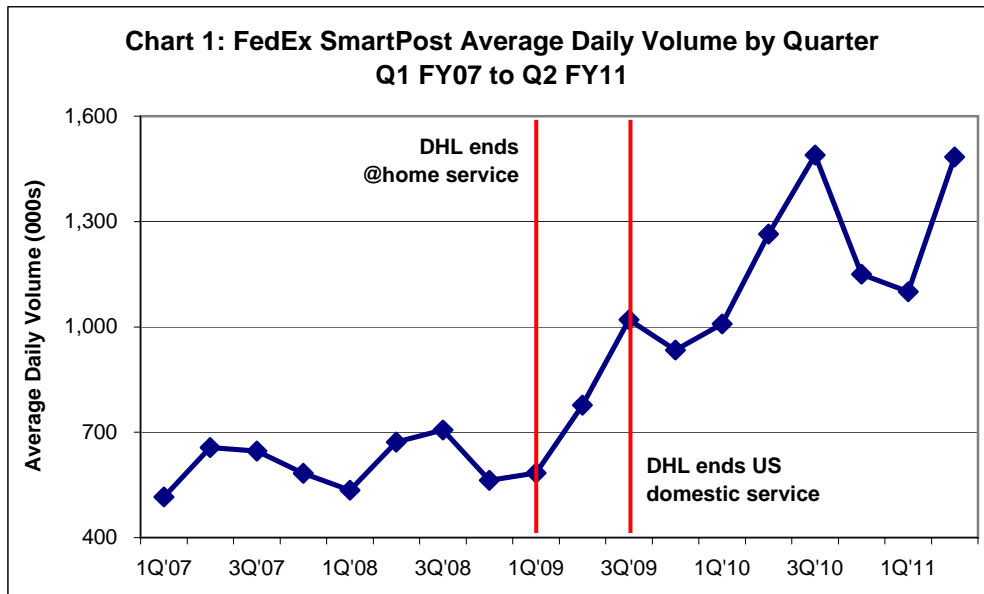
However, due to the shipping characteristics for certain customers, some volume is shipped via SmartPost and some via regular parcel services of FedEx or UPS. For example, Kohl's uses SmartPost for packages under 8 pounds, but uses UPS Ground for all other shipments.¹ As the parcel volume for SmartPost has increased at rapid rate in

¹ Kohl's Website, Customer Service Shipping and Order Tracking

last two years, SmartPost has expanded its operation to tender parcels to the Postal Service at DDUs, which are the deepest entry point to the Postal Service’s network.

As of late 2010, SmartPost was delivering parcels to over 12,000 Destination Delivery Units. The rest of the volume is delivered to the Postal Service at its Destination Bulk Mail Center (DBMC) or Destination Sectional Center Facility (DSCF). SmartPost delivers to DBMC or DSCF when it does not have enough volume to justify sending its trucks to the DDUs that are assigned to the applicable DSCF or the DBMC. As the volume to these DSCF or DBMC increases, look for FedEx SmartPost to increase the number of deliveries made to DDUs.

As shown in the table below, SmartPost volumes have doubled within the last four years. This explosive growth in late 2008 and early 2009 resulted primarily due to shutting down of DHL@Home service with the exit of DHL from the U.S. domestic parcel market. Gains in fiscal year 2010 are due to more business to consumer parcel shippers pressured to reduce shipping expenses during the economic recession of 2009 and 2010 and continued growth of retail sales to business and consumers via online ordering options.



In March 2009, FedEx SmartPost expanded service to Canada by partnering with Canada Post, only handling shipments originating in the U.S. Despite SmartPost volume gains in the second half of 2009, Canada Post parcel volumes show a decline in 2009 while Parcel Select volumes increased; suggesting that the Canadian service is a very small portion of SmartPost and thus the rapid growth in SmartPost volume is driven mainly by developments in domestic U.S. market such as shift from DHL@home service and conversion of lighter weight Priority Mail parcels by large volume business to consumer shippers for more price sensitive products and consumers.

The growth experienced during the 2009 fiscal year due to the transfer of DHL@home volumes predominantly to SmartPost did not result in a volume increase for the Postal Service, as they were already using the workshare program. Volume increases from better sales/marketing efforts of FedEx and due to economic recession pressure on shippers during the 2010 fiscal year were absorbed by the Postal Service in the existing rural delivery network with minimal incremental cost. With approximately 74,500 rural delivery routes,² this dramatic increase in SmartPost volume equates to about 6 additional packages per rural delivery route per day only during the peak Christmas holiday season for the Postal Service.

The Postal Service cost structure for rural deliveries is such that increase in volume actually results in lowering the unit cost of all packages in the system. This volume growth makes the Postal Service an even better option for such deliveries and will further limit the private parcel carriers to do such deliveries with their own pickup and delivery network.

VII. GDP Contribution from Rural DAS Areas

This task is to estimate the contribution to the U.S. GDP by rural areas affected by Extended DAS by using income data per ZIP Code as a proxy for GDP contribution. Data from the Internal Revenue Service is collected and distributed by IncomeTaxList.com, which provides the number of tax filings and the average income per filing for every ZIP Code submitted by taxpayers to the IRS. From this, SJC estimated the total income per ZIP Code and per state. SJC then applied the percent of state income per ZIP Code to the total GDP contribution per state, provided by the Census Bureau, to estimate the GDP contribution per ZIP Code.

The people and businesses located in the rural areas of the continental U.S. (Extended DAS footprint) are estimated to contribute 10.75 percent to the continental U.S. GDP, even though they represent 16.6 percent of the total population.

VIII. Social Benefits of Rural Postal Service

The report shows that the Postal Service has a lower cost of parcel delivery to rural areas than the private carriers which creates numerous social benefits for the nation. Without this lower delivery cost of parcels to rural areas, residents in these areas would either pay a lot more for delivery through private parcel carriers, be required to travel to the post office to pick up their packages and mail or drive to a larger city to shop for certain items at brick and mortar stores. Likewise, this value is also attributable to simultaneously picking up packages along the delivery route. The consolidation of these trips into larger loads and dense routes operated by the Postal Service lowers fuel consumption as compared to the alternative, thereby helping national objectives of reducing dependence on imported fuel.

² USPS Rural Delivery Statistics, FY2010 PP 21

Frequent trips from rural areas to urban areas to collect or send parcels and to shop at stores would also result in other negative aspects of driving. Increased traffic would lead to more air pollution and traffic congestion on highways. The congestion would increase the wear-and-tear on roadways, leading to higher costs of repair and maintenance of the roads.

The delivery network also benefits the population in urban areas. Without parcel delivery and pickup in rural areas, some businesses might not establish offices in certain rural areas. That could result in people from rural areas migrating to urban areas, which would increase population density in urban areas. A reduction in population density in rural areas could in turn discourage other businesses from opening stores to rural areas, leading to a snowball effect of further migration from rural to urban areas. The uniform delivery charter of the Postal Service (supported by its lower delivery cost to rural areas compared to private carriers) serves the purpose of supporting development of rural economy (agriculture and raw material mining) and continued interest in rural population to reside in such areas for the welfare and social good of America.

IX. Discussion Summary

The benefit of the Postal Service's rural delivery network is observed in the difference in cost of delivery per piece for the two major parcel carriers vs. the Postal Service. The cost advantage per parcel delivery to rural areas has led competitors to utilize the Postal Service for last-mile delivery. The primarily fixed-cost structure of the Postal Service results in volume increases to lower the delivery cost per piece to continue solidifying its dominant position for rural delivery of small parcels.

While the Postal Service may experience lower unit cost for delivery of parcels to rural areas, it can increase Parcel Select rates for parcel consolidators as long as the consolidators are raising their accessorial rates for their integrated ground parcel services as it happened in 2011. Starting January 3, 2011, UPS and FedEx Ground raised the Delivery Area Surcharge by 25 cents for residential address and by 15 cents for commercial addresses, while the Postal Service raised its rates for Parcel Select service by about 11 cents, or significantly less than private carrier increase. There is even the potential for more price-sensitive Priority Mail customers to move to consolidation services as minimum volume requirements decline and their customer base seeks lower priced products at lower shipping charges. These trends will continue to allow USPS to achieve higher contribution margin from Parcel Select service.

The above discussion of the benefits of the Postal Service's rural delivery network and the project methodology relies on data collected from multiple public sources. With respect to driver data for the public carriers, statistics were collected through legal documents, contracts and individual driver comments. These figures are limited to selected areas of their network, but in absence of confidential data of these private carriers, provide a reasonable assessment of their last mile delivery costs. Postal Service data was provided by the Commission.

SJC needs to identify one limitation in the methodology used for establishing the cost of last mile delivery to the rural areas by the Postal Service. While the data for Parcel Post was used to establish the delivery cost, with the rapid growth in online orders, miniaturization of products, more efficient packaging by major retailer using Parcel Select service, and pressure on reducing shipping charges (resulting from online retailers having to offer free shipping to promote online sales), the Parcel Select market is growing at a faster rate than other two parcel oriented services for the Postal Service.

Hence, with a lighter weight of 3.7 pounds for Parcel Select as compared to 6.6 pounds for Parcel Post, the cost of last mile delivery in both rural and urban areas for Parcel Select is likely to be lower than such cost for Parcel Post parcels. The lower-weight parcel segments of Bound Printed Matter Parcels and Media & Library Mail both have lower delivery costs than Parcel Post, with rural delivery costs still being lower than city costs. This suggests that the Postal Service has an even greater cost advantage over private carriers for the last mile delivery to rural areas of the country.

SJC has identified two potential areas of study regarding the value of rural service. First, the coverage area of rural postal carriers can be compared to the DAS coverage area of the major parcel carriers to determine all areas where they overlap. The Postal Service can then identify ways to get the private carriers to give more volumes to the rural delivery network. Second, the Postal Service can research ways to deploy a lower-cost delivery structure for city postal carriers. This could allow them to gain a cost advantage and potentially increase the volume of last-mile deliveries in urban areas.

Supplement A

I. Scope of Work

Qualifying the benefits of the Postal Service's rural service to Alaska and Hawaii

This supplement covers the expanded Scope of Work, in which the Commission engaged SJC to provide the following qualitative analysis with regards to rural delivery in Alaska and Hawaii:

1. Major Parcel Carrier Delivery Area Surcharge (DAS) ZIP Codes - Provide a qualitative assessment of rural ZIP Codes to which a rural surcharge is applied by UPS and FedEx.
2. US Population in Rural DAS ZIP Codes - Provide a qualitative assessment of density and difficulty of delivering to rural areas of the two states that provides a basis for having a surcharge.
3. GDP Contribution from Rural DAS Areas - Obtain estimates of local Gross Domestic Product (GDP) by population or metropolitan area and map to ZIP Codes to estimate GDP contribution of rural areas with Remote Area Surcharge as a percent of total U.S. GDP to proxy the benefit of rural service.
4. Delivery Cost Analysis to Rural DAS Areas - Provide a qualitative assessment of costs incurred for rural service by UPS, FedEx and by the Postal Service to provide a basis for surcharges to rural ZIP Codes of Alaska and Hawaii.
5. Benefits Derived by the Postal Service Rural Delivery Network - Provide a qualitative assessment of benefits derived by the Postal Service by having a more extensive and frequent delivery network in rural areas that result in a rural surcharge by private parcel carriers.
6. Written Report quantifying the benefits of the Postal Service's rural service.
 - a. Qualitative assessment of benefits as determined by the project
 - b. Discuss reasons and methodology used to support conclusions of the Report
 - c. Provide assessment of limitations of information available or relied upon, or methodology, that may hamper the accuracy or completeness of the findings

II. Major Parcel Carrier Rural Area Surcharge ZIP Codes

Similar to the mainland U.S., both UPS and FedEx apply charges for delivery to rural areas of Alaska and Hawaii, referred to as Remote Area Surcharges. However, there are major differences in the approach and the rate structures of the two carriers. For Ground service, UPS has two separate rates for Alaska and Hawaii. One rate is for urban/metro areas (Ground Zone 44) and another has higher rates for rural areas (Ground Zone 46) with an average difference of about \$6.00.

Even though UPS describes Zone 44 as for metro areas, a package could still be assessed a Remote Area Surcharge. Similarly, a destination that is assessed a rate for Zone 46 (considered rural rate) may not have the separate rural surcharge. Despite higher rural rates for Zone 46 packages, if the destination ZIP Code is a remote area ZIP, it is assessed an extra Remote Area Surcharge. In contrast, FedEx only has one zone for Alaska and Hawaii, but applies a higher Remote Area Surcharge. Table S-1 shows surcharges for remote areas applied by UPS and FedEx for Alaska and Hawaii.

Remote (Ground)	UPS	FedEx
Remote Alaska	\$ 15.00	\$ 30.00
Remote Hawaii	\$ 6.00	\$ 11.00

Source: Company Rate Guides

For Alaska and Hawaii, figures and percentages are either discussed with respect to the state or in relation to all 50 states. Remote areas account for 74 (200 of 272) and 49 percent (67 of 138) of all valid Alaska and Hawaii ZIP Codes, respectively. For Hawaii, non-DAS areas are limited to the island of Oahu, which includes the state capital and largest city of Honolulu. For Alaska, non-DAS areas are primarily around the five major cities (Anchorage, Juneau, Fairbanks, Ketchikan and Kodiak). SJC estimates that up to 90 percent of Alaska ZIP Codes would qualify as remote under the criteria applied to EDAS areas in the mainland (population density of less than 20 people per square mile).

III. US Population in Rural/Extended DAS (Extended DAS) ZIP Codes

Alaska and Hawaii each only have one level of Remote Area Surcharge, but they are more closely related to the Extended DAS due to low population densities of 0.2 and 58 people per square mile for Alaska and Hawaii, respectively. In total, Alaska has the lowest population density of any state at 1.1 people per square mile (Wyoming comes in second with five people per square mile). For Hawaii, the island of Oahu has no remote surcharges; but delivery to 100 percent of the other seven islands (which include Hawaii, Maui and Kauai) requires a surcharge. In this case, the higher Remote Area Surcharge is based on the additional transit requirements by air or water to those islands. For Alaska, the remote surcharge accounts for similar differences but also accounts for difference in distances between cities/delivery points, weather and road/infrastructure issues.

DAS Type	Population	Land Area	Density
AK Remote	19.6%	88.1%	0.2
HI Remote	27.5%	78.9%	65.7
Total AK & HI vs. US	0.7%	16.5%	

**Note: In relation to the total U.S., AK & HI contain 17.1 percent of all DAS area, but only 14.6 percent of total U.S. land area*

IV. GDP Contribution from Rural DAS Areas

While the states of AK and HI are estimated to contribute 0.8 percent of U.S. GDP and represent 0.7 percent of the population, remote areas only contribute less than 0.2 percent of GDP with less than 0.2 percent of the population.

V. Delivery Cost Analysis to Rural Areas of Alaska and Hawaii

Shipments destined for Alaska and Hawaii have a different cost structure than those within the continental U.S. due to the linehaul requirements to transport over very large distances. For air transport, the distance from Los Angeles, California to Anchorage is 2,300 miles and 2,500 miles to Honolulu, Hawaii. For intra-state traffic, the differences between rural and urban delivery areas are far more extreme than in other states. Hence, for Hawaii, UPS and FedEx have a Remote Area Surcharge for any deliveries outside of Oahu, which contains over 70 percent of the state population. Transportation of packages to these islands has to be completed via small aircraft or boat.

In Alaska, only areas near five major cities (Anchorage, Juneau, Fairbanks, Ketchikan and Kodiak) are without remote surcharges. Together, these cities account for 80 percent of the state population, but only 12 percent of land area.

The additional cost of delivery to even urban areas of these two states can be seen through comparison of base rates for ground parcel services. *Table S-3* highlights the differences in rates to rural areas compared to urban areas between the Postal Service and parcel carriers:

To	Miles (Air)	Urban			Rural		
		UPS	FedEx	USPS	UPS	FedEx	USPS
D.C.	2,280	\$ 12.77	\$ 11.49	\$ 12.29	\$ 14.62	\$ 13.34	\$ 12.29
Anchorage	2,340	\$ 39.59	\$ 35.63	\$ 12.29	\$ 63.27	\$ 65.63	\$ 12.29
Honolulu	2,550	\$ 39.59	\$ 35.63	\$ 12.29	\$ 54.27	\$ 46.63	\$ 12.29

*Notes: Rates for 5 lb. package via Ground & Parcel Post
Rates do not include fuel surcharges*

For parcel carriers, the Remote Area Surcharge is used to recover the additional costs incurred for travel to the rural areas of Alaska, which are some of the least dense areas and most difficult to deliver regions in the country. In addition to the distances, delivery

drivers in Alaska also face the challenge of more weather-related issues impacting roadways and delivery costs, and very short periods of daylight.

VI. Benefits Derived by the Postal Service from its Rural Delivery Network

Unlike the continental U.S., the Postal Service does not receive benefits from providing rural delivery service in Alaska and Hawaii due to the unique location and size of these states. First, the cost of delivery alone (for shipments moving between these two states and the continental U.S.) is much greater as reflected by the significantly higher rates even for delivery to urban areas charged by private parcel carriers. As seen in *Table S-3*, rate to deliver to a package in Alaska and Hawaii when it originates in the mainland U.S. is three times higher for UPS and FedEx than the same package traveling a similar distance in the continental U.S.

Furthermore, when compared to the Postal Service, UPS (\$39.59) and FedEx rates for a ground service to the two states with either a faster or the same transit time as the Postal Service are **three times higher** than postal rates (\$12.29) **for same package**. Hence, for every package that the Postal Service transports between mainland U.S. and Alaska or Hawaii, the Postal Service loses money. Some of these losses are subsidized in excess of \$100 million per year by other users of the Postal Service. The very high cost of delivery to rural ZIP Codes in Alaska is further confirmed by the finding that FedEx and UPS themselves use the Postal Service for delivery of parcels less than 70 pounds (parcel weight limit for US Postal Service) to remote areas while retaining the premium between their higher rates and much lower subsidized postal rates.

VII. Social Benefits of Rural Postal Service

Because of Federal subsidy, the Postal Service's considerably lower rates (compared to UPS and FedEx) to rural areas of Alaska and Hawaii provide social benefits to the residents of the two states. As noted in the remarks of Senator Lisa Murkowski of Alaska, there are many rural communities in Alaska that do not even have roads or access to pharmacy and hence rely on the Postal Service for delivery of prescription medication ordered online or via telephone.³ Due to lack of roads in many communities, difficult weather conditions, and extremely low population density in many parts of Alaska, SJC research on delivery service in Alaska shows that over 75 percent of post offices in Alaska do not provide home delivery service and thus many residents do not benefit from rural delivery service of USPS. These residents have to drive to the local post office to retrieve their mail and packages from Post Office Boxes provided at no charge due to lack of delivery service.

VIII. Discussion Summary

The Postal Service does not benefit from offering rural delivery service between Alaska and Hawaii and the mainland U.S. at the current rate structure. Due to low population

³ PRC Docket No. N2010-1, Tr. Vol. X at 2813, 9/16/2010.

density of rural Alaska and Hawaii, lack of roads in many rural areas in these states, serious weather challenges in Alaska and declining mail volume, delivery service to rural areas of Alaska and Hawaii represents a huge financial burden for the Postal Service that will require continuation of subsidy by other Postal Service customers to avoid increase in rates to both urban and rural post offices.

This discussion on the benefits and cost of rural delivery to Alaska and Hawaii is based on data collected from public sources, as well as Postal Service data obtained from PRC or the Postal Service. Due to the extensive differences in the delivery services and lack of readily available data on cost structure of private carriers for delivery in these two states, the methodology used relied more on the pricing differences and understanding that the price differences to a significant extent are reflective of the difference in the cost for the services.

Further study on this subject can include a more detailed review of the Postal Service's costs related to delivery to Alaska and Hawaii. Likewise, the volume of mail and parcels for Postal Service compared to UPS and FedEx and the percent of packages delivered to EDAS areas of the two states can be investigated. Additional analysis can determine ways to minimize costs through potential services like expansion of free Post Office Boxes and/or partnership with the private sector such as convenience stores, gas stations and similar businesses in the target area.