

Optimizing Distribution Center Location and Delivery Schemes for the USDA's Food Distribution Program on Indian Reservations (FDPIR)



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ABSTRACT

Each month, approximately 93,000 low-income Native American and Alaska Native individuals (from 276 tribes) are beneficiaries of a commodity food distribution program administered by the United States Department of Agriculture (USDA). The geographic vastness and remoteness of Tribal populations leads to a complex network of transporting food packages. Minimizing transportation costs through optimizing locations of commodity food distribution centers and developing new delivery schemes increases budget efficiency and allows for better service. This paper seeks to provide the best strategies for positioning distribution centers and delivering to tribal centers.

INDIGENOUS FOOD AND AGRICULTURE INITIATIVE

The Indigenous Food and Agriculture Initiative enhances health and wellness in Tribal communities by advancing healthy food systems, diversified economic development, and cultural food traditions in Indian Country. We empower Tribal governments, farmers, ranchers and food businesses by providing strategic planning and technical assistance; by creating new academic and professional executive education programs in food systems and agriculture; and by increasing student enrollment in land grant universities in food and agricultural related disciplines.

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INTRODUCTION

The USDA administers fifteen food and nutrition assistance programs (Food and Nutrition Service, 2017). After the introduction of what is now the Supplemental Nutrition Assistance Program (SNAP), the policy for food assistance programs shifted from actual food distribution to vouchers that could be redeemed in certified markets. One exception to the trend is the Food Distribution Program on Indian Reservations (FDPIR). FDPIR provides USDA foods to low-income households living on Indian reservations and to Native American families residing in designated areas near reservations and in original Tribal boundaries within the State of Oklahoma (FDPIR, 2017).

“The combination of economic hardship, poor health outcomes and geographic isolation from SNAP-eligible retail food firms necessitates the distribution of bulk commodities for FDPIR participants.”

FDPIR is unique in its explicit design to serve Native Americans. American Indians and Alaska Natives are disproportionately affected by poverty, making it difficult to access nutritious food (Pettit, et al., 2014). Additionally, Tribal lands and Alaska Native Villages are often in remote, rural locations, complicating access to healthy

food for the community. The combination of economic hardship, poor health outcomes and geographic isolation from SNAP-eligible retail food firms necessitates the distribution of bulk commodities for FDPIR participants. According to a study by the USDA, the FDPIR food package, which is meant to be supplemental in nature, was the sole or primary source of food for 38 percent of participating households (Pindus, 2016).

In Fiscal Year 2016, FDPIR served more than 93,000 individuals monthly with a total budget of \$145.2 million. Program administration, including transportation, accounted for nearly 30% of the total program cost. This paper seeks to identify cost efficiencies in transportation of bulk food commodities from FDPIR distribution centers to the 113 participating Indian Tribal Organizations (ITOs).

BACKGROUND

FDPIR is jointly administered by the federal government and local ITOs. That statement should be clarified to state that FDPIR has a set of ITOs at the tribal level that are local managers on site within their tribes but all decisions regarding the program are retained within the federal government. This is because USDA FNS has not sought nor been granted by Congress the authority to do what is known as “638” FDPIR as a program which would allow tribal direct management under a contract with the federal government. This authority (“638”) is utilized frequently in the federal/tribal government-to-government relationship and achieves cost savings and efficiencies in the programs in which it is utilized.

As of the writing of this document, the Congress still has not provided 638 authorities to USDA FNS to enter into contract management agreements with regard to FDPIR. But, the tribes who participate in FDPIR achieve as close to this method of program delivery as possible. USDA policymakers set income eligibility guidelines¹, select commodities available for food packages and maintain the program budget. USDA policymakers also decide how the foods are delivered, who they contract with to deliver the foods, and all manner of substantive decisions related to supply chain, purchasing, storing, and distribution. ITOs are charged with enrolling eligible participants, coordinating food package orders and deliveries only at the program site, and providing nutrition education (FDPIR, 2016).

Eligible participants are entitled to a monthly food package. Individuals are allowed to mix and match according to prescribed limits from a catalog of approximately 100 foodstuffs, based on season and availability (FDPIR, 2017). Households receive one FDPIR package per month that is scaled according to the number of individuals in that household.

As participants make their food selections, ITO staff contact a FDPIR distribution center to request delivery. Currently, there are FDPIR distribution centers located in Boise, ID and Kansas City, MO.

This study was performed under a grant agreement with the W.K. Kellogg Foundation and other funders of the Indigenous Food and Agriculture Initiative also provided additional resources to the performance of the modeling that is at the core of this study.

METHODS

Given the guidelines for distribution rates² and the foodstuffs available in the FDPIR catalog³, an average monthly food package for one individual weighs 80 pounds. This value is multiplied by the number of participants registered at each ITO⁴ to find the total weight of food delivered to each ITO per month. Using a freight limit of 44,000 pounds per truck, we determine each truck can deliver food for 550 people. The number of trucks needed per ITO monthly is calculated from dividing the total FDPIR population by 550 people/truck.⁵

Driving distances from both distribution centers are compiled for each ITO based on recommended routes from Google Maps⁶. A network flow model was constructed. Under the assumption that food delivery costs are tied directly to transport mileage, the objective is to minimize the sum of all weighted round-trip driving distances.

¹ See Appendix for FDPIR Monthly Income Standards for FY 2018

² See Appendix for FDPIR Monthly Distribution Guide Rates By Household Size

³ See Appendix for USDA Foods Available for 2017 – FDPIR

⁴ See Appendix for FDPIR Number of Participants FY 2016

⁵ Populations within 5% of the cut-off value (i.e. 550 people) are rounded down.

⁶ Note that driving distance is the mileage calculated between ITO city and distribution center city from the first recommendation given by Google Maps (excluding ferry routes).

$$\text{Min} \sum_{i=n}^i \alpha_{ij} \times \beta_{jk} \times \gamma_{jk}$$

Where,

α = binary variable ; β = round – trip driving distance ; γ = # of trucks ; n = [0,1];

j = distribution center ; k = ITO ;

Subject to,

$$\gamma_{jk} = \delta_k$$

Where,

δ = # of trucks demanded

And,

$$\sum_{j=1}^j \alpha_{ij} = 1$$

so that only one distribution center is selected to serve each ITO.

Subsequent network flow models introduce the possibility of additional distribution centers and explore the effect of novel delivery schemes that serve multiple ITOs on one trip. Mileage savings between the baseline scenario (only Boise, ID and Kansas City, MO) and each new scenario is recorded. Cost savings is derived from multiplying the industry average cost of tractor trailer transportation per mile (\$2.30)⁷ by the mileage savings.

We start by introducing one additional distribution center. Five potential sites are presented: Colorado Springs, CO; Flagstaff, AZ; Las Vegas, NV; Minneapolis, MN; and Oklahoma City, OK.⁸ In addition, several other potential sites were considered but excluded because an initial cursory examination revealed the possible savings from these sites would be less than the five that were assessed and mentioned above.

At this point, there were also considered a set of sites (Oklahoma City, OK; Billings, MT; Albuquerque, NM) that would ‘mimic’ state-run sites by serving only ITOs with tribal clientele within the states they were positioned. These produced far less potential savings than the regional sites and this were dropped from further consideration. The next step was to test all combinations of two additional distribution centers to find the most promising. Finally, we

⁷ Cost per mile of food transportation is derived from industry averages obtained from <https://rateview.dat.com>, DAT Solutions, LLC. We assume 20% transportation on refrigerated trucks and the remainder on non-refrigerated trucks.

⁸ Other, less effective considerations include Agency Village, SD; Albuquerque, NM; Billings, MT; Helena, MT; Oneida, WI; Pendleton, OR; Tahlequah, OK; Tuba City, AZ; Tulsa, OK; and Spokane, WA.

used the best four-center model to explore delivery routes with the option to serve multiple ITOs with one truck as well as increasing frequency of delivery to twice a month.

RESULTS

MONTHLY DELIVERY

Establishing a baseline scenario for comparison, we model the optimal transportation scheme to serve all 113 ITOs from Boise, ID and Kansas City, MO.⁹ Minimum round-trip monthly mileage with the current distribution capacity is 263,482 miles for one delivery per month. This model assumes each ITO is served separately, with dedicated trucks for each location (no shipping coordination with other sites).

Next, we add one more distribution center to the existing structure and calculate minimum round-trip monthly mileage. Results for the addition of each of five potential distribution centers are shown in Table 1, presented with monthly miles saved compared to the baseline Kansas City-Boise (KCB). We see that from the potential sites listed, adding a distribution center in Flagstaff, AZ would reduce monthly mileage by the largest amount (down to 216,008 miles for a savings of 47,474 miles).

	Minimum Monthly (miles)	Monthly Saved (miles)
Add Colorado Springs	237,494	25,988
Add Flagstaff	216,008	47,474
Add Las Vegas	228,314	35,168
Add Minneapolis	228,630	34,852
Add Oklahoma City	229,778	33,704

Table 1. Results from one-center expansion model. "Monthly miles saved" are calculated from the baseline round-trip monthly mileage for one delivery per month (263,482 miles).

Given the mileage savings from one additional distribution center to the KCB system, we expect further reductions in total mileage for FDPIR transportation when adding two new centers. In Table 2, we show all possible combination of pairs of the previously identified five locations, along with minimum monthly miles and savings from baseline. The combination of Flagstaff, AZ and Minneapolis, MN with KCB is most effective, leading to a savings of 82,326 miles (for a new monthly minimum of 181,156 miles).

⁹ Note that the actual current transportation scheme is unknown, so all comparisons are to the hypothesized optimal given current capacity.

	Minimum Monthly (miles)	Monthly Saved (miles)
Flagstaff & Colorado Springs	207,010	56,472
Flagstaff & Las Vegas	214,062	49,420
Flagstaff & Minneapolis	181,156	82,326
Flagstaff & Oklahoma City	186,560	76,922
Las Vegas & Colorado Springs	216,740	46,742
Las Vegas & Minneapolis	193,254	70,228
Las Vegas & Oklahoma City	198,146	65,336
Minneapolis & Colorado Springs	205,040	58,442
Minneapolis & Oklahoma City	194,922	68,560
Oklahoma City & Colorado Springs	208,168	55,314

Table 2. Summary of results from potential two-center expansion model. “Monthly miles saved” are calculated from the baseline round-trip monthly mileage for one delivery per month (263,482 miles).

To this point, all delivery schemes have involved treating each ITO as an isolated entity. In reality, many ITOs are relatively close to each other, and could share transportation resources with other program sites. The idea of a “thread” is established as a delivery route that allows two or more ITOs to be served from the same truck. In this way, we hope to reduce the overall number of trucks needed, minimizing fixed costs of trucking capacity as well as reducing total mileage by eliminating unnecessary overlap.

There are many possible combinations for threads serving all ITOs. Two approaches are applied in this report. The first strategy (Thread A) is to maximize truckload – as close to 44,000 pounds as possible without going over – while minimizing the number of ITOs on each route (to reduce complexity). The second strategy (Thread B) is to group together ITOs that are closest to each other, with truck fullness a lesser priority. Each thread must demonstrate mileage savings compared to treating the same ITOs as isolated entities. We apply each method to the Flagstaff-Minneapolis model and report results (Table 3).

Results for each thread are within 20% of the other for each distribution center. We assume that each distribution center region is allowed to operate independently, therefore the minimum mileage for each distribution center (regardless of which thread it derives from) are combined for a final minimum mileage. In this scenario, Kansas City, MO works best with Thread A, while the other distribution centers work best under Thread B. Together, the optimal thread yields a round-trip monthly mileage of 149,929.

	Without Thread	Thread A	Thread B	Best Thread
Total	181,156	157,010	150,287	149,929
Boise, ID	54,332	46,186	43,990	
Kansas City, MO	54,982	50,138	50,496	
Flagstaff, AZ	16,872	15,318	14,788	
Minneapolis, MN	54,970	45,368	41,013	
Monthly Miles Saved	--	24,146	30,869	31,227

Table 3. Results for monthly delivery from a thread applied to the two-center expansion model with Flagstaff and Minneapolis. Thread A maximizes truck fullness, while Thread B groups together ITOs by proximity. “Monthly miles saved” is the difference from total monthly delivery compared to the two-center expansion without a thread (181,156 miles).

Table 4 summarizes – at a distribution center level – the volume capacity (number of ITOs and population served), fixed assets (number of trucks utilized), and variable mileage (round-trip monthly miles) for each proposed monthly delivery scheme. We see that two-center expansion with a thread is the mileage-minimizing choice (reduction of 113,553 miles per month). It also requires fewer trucks to complete deliveries (172 compared to 227 for every other scheme). With a two-center expansion model, food capacity is distributed as follows: Boise, ID (16.75%); Kansas City, MO (39.98%); Flagstaff, AZ (17.96%); and Minneapolis, MN (25.29%).

	ITOs served	Population served	Trucks shipped	Miles covered	Monthly miles saved
Baseline			227	263,482	--
Boise, ID	49	30,923	80	115,110	
Kansas City, MO	64	148,372	147	148,372	
Add Flagstaff			227	215,886	47,474
Boise, ID	36	16,487	48	59,962	
Kansas City, MO	60	59,963	141	139,174	
Flagstaff, AZ	17	16,745	38	16,872	
Add Flagstaff & Minneapolis			227	181,156	82,326
Boise, ID	34	15,613	45	54,332	
Kansas City, MO	23	37,263	79	54,982	

Flagstaff, AZ	17	16,745	38	16,872	
Minneapolis, MN	39	23,574	65	54,970	
Flagstaff & Minneapolis Best Thread			172	149,929	113,553
Boise, ID	34	15,613	30	43,990	
Kansas City, MO	23	37,263	68	50,138	
Flagstaff, AZ	17	16,745	31	14,788	
Minneapolis, MN	39	23,574	43	41,013	

Table 4. Summary results for baseline, one-center expansion, two-center expansion and two-center expansion thread models. Includes ITOs served, population served, trucks shipped, and miles covered. “Monthly miles saved” is the difference from baseline compared to each monthly delivery scheme.

BIMONTHLY DELIVERY

Next, we explore the possibility of twice monthly (bimonthly) deliveries to each ITO. For simplicity, we assume ITOs that demand one truck will now receive two trucks of equal-sized deliveries. For all ITOs that previously demanded more than one truck, they will receive the same number of shipments, just at different intervals. Bimonthly deliveries allow for more flexibility when handling perishable foods. Table 5 shows the results for two-center expansion with bimonthly deliveries, shows both thread methods, and identifies the best combination for minimum mileage.

	Without Thread	Thread A	Thread B	Best Thread
Total	239,104	187,148	165,608	165,232
Boise, ID	79,000	56,484	48,016	
Kansas City, MO	60,234	52,858	53,234	
Flagstaff, AZ	24,490	19,070	17,170	
Minneapolis, MN	75,380	58,736	47,188	
Monthly Miles Saved	--	51,956	73,496	73,872

Table 5. Results for bimonthly delivery from a thread applied to the two-center expansion model with Flagstaff and Minneapolis. Thread A maximizes truck fullness, while Thread B groups together ITOs by proximity. “Monthly miles saved” is the difference from total bimonthly delivery compared to the two-center expansion without a thread (239,104 miles).

Table 6 summarizes – at a distribution center level – the volume capacity (number of ITOs and population served), fixed assets (number of trucks utilized), and variable mileage (round-trip monthly miles) for each proposed bimonthly delivery scheme. We see again that two-center expansion with a thread is the mileage-minimizing choice (reduction of 180,837 miles

per month). It also requires fewer trucks to complete deliveries (176 compared to 298 for every other scheme). A bi-monthly expansion model distributed food capacities identically to the previous monthly delivery scheme using only 4 additional trucks (176 vs 172).

	ITOs served	Population served	Trucks shipped	Miles covered	Monthly miles saved
Baseline			298	346,072	--
Boise, ID	49	30,923	114	153,494	
Kansas City, MO	64	62,273	184	192,578	
Add Flagstaff			298	289,822	56,250
Boise, ID	36	16,487	75	86,500	--
Kansas City, MO	60	59,963	175	178,832	--
Flagstaff, AZ	17	16,745	48	24,490	
Add Flagstaff & Minneapolis			298	239,104	106,968
Boise, ID	34	15,613	71	79,000	--
Kansas City, MO	23	37,263	88	60,234	--
Flagstaff, AZ	17	16,745	48	24,490	
Minneapolis, MN	39	23,574	91	75,380	
Flagstaff & Minneapolis Best Thread			176	165,235	180,837
Boise, ID	34	15,613	32	48,016	--
Kansas City, MO	23	37,263	68	52,858	--
Flagstaff, AZ	17	16,745	32	17,170	
Minneapolis, MN	39	23,574	44	47,188	

Table 6. Summary results for baseline, one-center expansion, two-center expansion and two-center expansion thread models. Includes ITOs served, population served, trucks shipped, and miles covered. "Monthly miles saved" is the difference from baseline compared to each bimonthly delivery scheme.

SUMMARY OF DELIVERY OPTIONS

A series of options are presented for improvement to the current delivery scheme (Table 7). Compared to the assumed status-quo (263,482 round-trip monthly miles), five of the scenarios shown reduce monthly mileage by at least 24,378 miles (up to 113,533 miles). The scenario minimizing total mileage adds distribution centers in Flagstaff, AZ and Minneapolis, MN, and serves all ITOs with a thread.

		Minimum Monthly Miles	Monthly miles saved*	Monthly miles saved**
Monthly	Baseline	263,482	--	--
	Add Flagstaff	215,886	47,474	
	Add Flagstaff & Minneapolis	181,156	82,326	
	F&M Best Thread	149,929	113,553	
Bimonthly	Baseline	346,072	--	-82,590
	Add Flagstaff	289,822	56,250	-26,340
	Add Flagstaff & Minneapolis	239,104	106,968	24,378
	F&M Best Thread	165,235	180,837	98,247

*Table 7. Results for eight delivery schemes divided by monthly and bimonthly delivery. *Compared to respective baseline (263,482 miles for monthly and 346,072 miles for bimonthly). **Compared to the assumed status-quo baseline of 263,482 miles.*

ECONOMIC CONSIDERATIONS OF EXPANSION SITES AND BI-MONTHLY ROUTING

To this point, we have discussed optimization in terms of reducing round-trip monthly mileage. Now we seek to transform mileage to money. From industry data for rates of 22-ton capacity box vans and refrigerated trucks provided by DAT Solutions, LLC, assuming 75% box van usage, we derive average transportation costs are \$2.30 per mile in the United States for June, 2018. Table 8 is a reproduction of Table 7 in monetary terms. Our best estimate of current monthly transportation costs (\$606,008.60) is calculated from the assumed status-quo of 263,482 round-trip monthly miles for delivery to all ITOs from Boise, ID and Kansas City, MO. The best thread monthly delivery system with four regional centers generates annual savings of roughly \$3,134,000. Similarly, the best thread bi-monthly delivery system with four regional centers generates annual savings of roughly \$2,712,000.

		Monthly Mileage Cost	Monthly Cost Savings*	% Saved*	Monthly Cost Savings**	% Saved**
Monthly	Baseline	\$606,008.60	--	--		
	Add Flagstaff	\$496,537.80	\$109,190.20	18%		
	Add Flagstaff & Minneapolis	\$416,658.80	\$189,349.80	31%		

	F&M Best Thread	\$344,836.70	\$261,171.90	43%		
Bimonthly	Baseline	\$795,965.60	--	--	\$(189,957.00)	(31)%
	Add Flagstaff	\$666,590.60	\$129,375.00	16%	\$(60,582.00)	(10)%
	Add Flagstaff & Minneapolis	\$549,939.20	\$246,026.40	31%	\$56,069.40	9%
	F&M Best Thread	\$380,040.50	\$415,925.10	52%	\$225,968.10	37%

Table 8. Associated transportation costs for eight delivery schemes divided by monthly and bimonthly delivery. *Compared to respective baseline (\$606,008.60 for monthly and \$795,965.60 for bimonthly). **Compared to the assumed status-quo baseline of \$606,008.60.

SUMMARY AND CONCLUSIONS

Several additional sites and alternative shipment schemes were evaluated for potential mileage savings and economic implications for FDPIR. Consideration was given to the addition of first one site, then a pair of sites. Serving the Southwestern Tribal populations from Flagstaff yielded the greatest single site savings, 47,474 miles per month. Adding Minneapolis to serve the Great Lakes and Northern Plains tribal populations saved an additional 34,852 miles per month. Efficient routing schemes were then evaluated for additional savings. An additional 31,227 miles per month were ‘saved’ using the most efficient route model.

Bi-monthly delivery to each ITO site was then evaluated in an effort to improve food quality and supply of the FDPIR packages, particularly perishable foods. It is important to note that total mileage did not double when deliveries increased to bi-monthly because larger tribal populations being served already received multiple shipments per month. Bi-monthly deliveries were evaluated to see what the cost of serving smaller populations twice monthly would actually be. As can be seen in table 8, the loss in savings going from a monthly to a bi-monthly approach would be \$35,204 per month or \$422,448 annually. Only four additional trucks would be required for the bi-monthly delivery scheme.

Every proposed expansion site considered had cost savings over the existing two site scheme of KCB; tradeoffs present in the modeling detail two important factors. First, each ITO is weighted based on participant population. Tribes in Oklahoma, the Great Plains and the Southwest have more participants, and thus demand more trucks. Decreasing the distance from a distribution center to these ITOs has a greater impact. This idea initially lead to exploration of Oklahoma City because of its proximity to the largest ITO served (Cherokee

SAVINGS AT-A-GLANCE: REGIONAL DISTRIBUTION

Monthly delivery system:

\$3,134,000 saved annually

Bimonthly delivery system:

\$2,712,000 saved annually

Nation of Oklahoma), and there were cost savings. Concurrently, there are also a number of ITOs with relatively small populations. The fact that a truck must still serve these areas, even at sub-capacity, skews the placement of distribution centers in relation to those locations.

Second, each model assumed that Kansas City and Boise remained FDPIR distribution centers. By starting with two static sites, the focus is on isolating regions with the possibility for drastically shorter driving distances. Colorado Springs was effective at drawing ITOs from both existing distribution centers, but its cost savings were eclipsed by Minneapolis which pulled mostly from Kansas City's territory, but was extremely close to a substantial subset of ITOs.

There are a number of gaps in the research as presented, which can be the subject of future research activities. For instance, food distribution in Alaska is not considered in this modeling effort, as there is only one ITO in Alaska and the delivery system to Tribal populations relies largely on airdrops. Many potential ITO sites in Alaska are awaiting approval as a food drop site because such approval hinges on the ability of the village to provide a distribution building and assure transportation from the distribution building can occur expeditiously. Additionally, the more remote villages in Alaska struggle with adequate infrastructure most months of the year and without adequate infrastructure (water, sewer, electricity, etc.) the distribution and storage site for foods cannot be built as a stand-alone structure and this reality also impacts the ability of the site to store and distribute in such a way as to ensure proper food handling and food safety standards are met. In other words, the myriad of special challenges in Alaska require a different delivery and distribution model altogether. Most importantly, these results also do not take into account supply side logistics. Shipment of food to the distribution centers could change the dynamics of optimal location. The research also excludes potential synergies that the USDA may gain from using distribution centers for other food distribution programs. If Kansas City and Boise are used for TEFAP, CACFP, CSPP, etc., the model would need to minimize weighted driving distances over those destinations, too.

It is important to note that none of the analyses examined the cost savings in light of establishing additional regional distributions sites, such as warehouses, administrative buildings, equipment, etc. For example, what exactly does USDA FNS require for their regional warehouse and distribution sites? Can Native resources be accessed and marshalled to implement the new sites? If not, why not? And if so, then what procedures and protocol must the Tribe put in place to fully manage regional distribution sites on behalf of multiple tribes.

The model knowingly omits a number of transportation factors that are important for deliveries, including traffic patterns, weather concerns, ease of driving, familiarity with routes, duration of trips, available drivers and external business opportunities. Some or all of these variables would likely change the driving distance for each ITO. Further study is needed

to take in these variables which are identifiable but were outside the scope of this initial study. The model is based only on past data and lacks foresight. There is no discussion of future ITOs or expected population changes in tribal communities. For instance, if the FDPIR program experiences a rapid uptick in participation rates (which it has in the past) the model should be revisited to ensure continuity. We do not anticipate a dramatic difference in our findings under those circumstances, but some scenarios should be explored to further unfold applicable modeling outcomes. Similarly, the model could be more robust if it addressed alternative shipping methods like bundling shipments to smaller ITOs, utilizing various truck sizes or changing delivery frequency.

IMPLICATIONS

Acknowledging some additional work to be completed in the future, a conclusion of this work is that there seem to be significant cost savings accessible to FDPIR if the government is willing to invest in expansion sites. However, no costs for expansion sites (i.e. warehouse, freezer and other important investments) was included in this analysis. Use of existing and available structures under the control and ownership of tribal governments which could be remodeled or repurposed should be explored as a component of the ongoing federal/tribal

“Equally important, such analysis and implementation of improvements will also lead to greater access to healthier and fresher foods and in doing so achieve more rapid health outcome improvements for not only tribal populations but the communities around them who struggle with food insecurity.”

government-to-government relationship. Better quantifying transaction costs of expansion (to either accommodate increased participants or to accommodate use of the structures and distribution systems to co-locate foods associated with other feeding programs) would allow a clearer economic picture for a new distribution center location. Potential cost savings lead to more efficiency within the program, opening doors to providing more food security for vulnerable populations and including more culturally relevant and demographically healthier foodstuffs. Equally important, such analysis and implementation of

improvements will also lead to greater access to healthier and fresher foods and in doing so achieve more rapid health outcome improvements for not only tribal populations but the communities around them who struggle with food insecurity.

A vitally important question to ask given the results of this initial analysis is “What can be done with the realized transportation savings to improve FDPIR by the ITOs?” ITOs have for years been expressing the need to upgrade their storage and distribution warehouses. Studies have quantified the financial cost of providing improved facilities. The roughly \$3 M savings in transportation could be utilized for these purposes to help ensure the quality,

freshness and safety of FDPIR foods upon delivery. Similarly, the transportation savings could be utilized to augment the choices of food in the FDPIR packages to include more traditional foods or foods of different nutritional profiles more suited to Native diets. Should serious consideration occur, the tragedy would be to allow the government to “capture” these savings for deployment outside the FDPIR program itself. To do so would exacerbate the food insecurity and lack of fresh, health, safe and culturally relevant foods within Native communities served by this program.

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FIGURES



Figure 1. Baseline Distribution Center Assignments. Blue markers signify ITOs served by Kansas City (in dark blue) and green markers signify ITOs served by Boise (in light green).



Figure 2. Distribution Center Assignments for Billings, MT Expansion. Orange markers signify ITOs served by Billings (in dark orange).



Figure 3. Distribution Center Assignments for Colorado Springs, CO Expansion. Orange markers signify ITOs served by Colorado Springs (in dark orange).



Figure 4. Distribution Center Assignments for Oklahoma City, OK Expansion. Orange markers signify ITOs served by Oklahoma City (in dark orange).



Figure 5. Distribution Center Assignments for Minneapolis, MN Expansion. Orange markers signify ITOs served by Minneapolis (in dark orange).



Figure 6. Distribution Center Assignments for Las Vegas, NV Expansion. Orange markers signify ITOs served by Las Vegas (in dark orange).



Figure 7. Distribution Center Assignments for Flagstaff, AZ Expansion. Orange markers signify ITOs served by Flagstaff (in dark orange).

Expansion Site	Monthly Mileage	Difference from Baseline per Month (miles)	Cost Savings from Expansion per Month	Cost Savings as Percent of Transportation Costs
Billings, MT	239,834	23,648	\$54,390.40	9%
Colorado Springs, CO	237,494	25,988	\$59,772.40	10%
Oklahoma City, OK	229,778	33,704	\$77,519.20	13%
Minneapolis, MN	228,630	34,852	\$80,159.60	13%
Las Vegas, NV	228,314	35,168	\$80,886.40	13%
Flagstaff, AZ	215,886	47,596	\$109,470.80	18%

**FOOD DISTRIBUTION PROGRAM ON INDIAN RESERVATIONS (FDPIR)
FY 2018 NET MONTHLY INCOME STANDARDS
(Effective October 1, 2017 to September 30, 2018)**

The net monthly income standard for each household size is the sum of the applicable Supplemental Nutrition Assistance Program (SNAP) net monthly income standard and the applicable SNAP standard deduction.

48 Contiguous United States:

Use this Amount

Household Size	SNAP Net Monthly Income Standard		SNAP Standard Deduction		FDPIR Net Monthly Income Standard
1	\$1,005	+	\$160	=	\$1,165
2	\$1,354	+	\$160	=	\$1,514
3	\$1,702	+	\$160	=	\$1,862
4	\$2,050	+	\$170	=	\$2,220
5	\$2,399	+	\$199	=	\$2,598
6	\$2,747	+	\$228	=	\$2,975
7	\$3,095	+	\$228	=	\$3,323
8	\$3,444	+	\$228	=	\$3,672
each additional member					\$349

Alaska:

Use this Amount

Household Size	SNAP Net Monthly Income Standard		SNAP Standard Deduction		FDPIR Net Monthly Income Standard
1	\$1,255	+	\$273	=	\$1,528
2	\$1,691	+	\$273	=	\$1,964
3	\$2,127	+	\$273	=	\$2,400
4	\$2,563	+	\$273	=	\$2,836
5	\$2,999	+	\$273	=	\$3,272
6	\$3,435	+	\$285	=	\$3,720
7	\$3,870	+	\$285	=	\$4,155
8	\$4,306	+	\$285	=	\$4,591
each additional member					\$436

FY 2018 FDPIR Income Deductions (see 7 CFR 253.6(e))
Effective October 1, 2017 to September 30, 2018

Earned Income Deduction	Households with earned income are allowed a deduction of 20 percent of their earned income.
Dependent Care Deduction	Households that qualify for the dependent care deduction are allowed a deduction of actual dependent care costs paid monthly to a non-household member.
Child Support Deduction	Households that incur the cost of legally required child support to or for a non-household member are allowed a deduction for the amount of monthly child support paid.
Medical Expense Deduction	Households that incur monthly medical expenses by any household member who is elderly or disabled are allowed a deduction in the amount of out-of-pocket medical expenses paid in excess of \$35 per month. Allowable medical expenses are provided at 7 CFR 273.9(d)(3).
Home Care Meal-Related Deduction	Households who furnish the majority of meals for a home care attendant are allowed an income deduction equal to the maximum SNAP benefit for a one-person household. The home care meal-related deduction amounts are as follows: 48 Contiguous U.S. States = \$192 Alaska by Area Designations <ul style="list-style-type: none"> • Urban = \$230 • Rural 1= \$293 • Rural 2 = \$357 See 7 CFR 272.7(b) for area designations in Alaska.
Standard Shelter/Utility Expense Deduction	Households that incur at least one monthly shelter or utility expense are allowed a standard income deduction (see chart below). Allowable shelter/utility expenses are provided at 7 CFR 273.9(d)(6)(ii).

**FY 2018 FDPIR Standard Shelter/Utility Expense Deductions
Effective October 1, 2017 to September 30, 2018**

Baseline by Region*

Region	States Currently with FDPIR Programs	Shelter/Utility Deduction
Northeast/Midwest	Michigan, Minnesota, New York, Wisconsin	\$400
Southeast/Southwest	Mississippi, New Mexico, North Carolina, Oklahoma, Texas	\$300
Mountain Plains	Colorado, Kansas, Montana, Nebraska, North Dakota, South Dakota, Utah, Wyoming	\$450
West	Alaska, Arizona, California, Idaho, Nevada, Oregon, Washington	\$400

*If the geographic boundaries of an Indian reservation extend to more than one region per the identified regional groupings above, then a qualifying household has the option to receive the appropriate shelter/utility expense deduction amount for the State in which the household resides or the State in which the State agency's central administrative office is located.

**FOOD DISTRIBUTION PROGRAM ON INDIAN RESERVATIONS
MONTHLY DISTRIBUTION GUIDE RATES BY HOUSEHOLD SIZE
Effective Date: July 1, 2018**

NOTE: The availability of individual products is subject to market conditions

<i>Household Size</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>	<i>6</i>	<i>7</i>	<i>8</i>	
USDA Food	Number of Items Per Month								Options
GRAINS, CEREAL, RICE and PASTA									
Cereal, Dry (all sizes)	1 unit per person								Corn, Oat, Wheat, Rice, Bran
Quick Oats (42 oz. package) or Farina (14 oz. or 18 oz. package)	1 unit per person								
Macaroni & Cheese (7.25 oz.) Macaroni (1 lb.) Whole Grain Rotini (1 lb.) Spaghetti (1 lb. box) Egg Noodles (1 lb. package) Rice (2 lb.)	Any combination of options cannot exceed 5 lbs. per person; limit of 1 lb. of Macaroni & Cheese per person <ul style="list-style-type: none"> • Three 7.25 oz. boxes of Macaroni & Cheese are treated as 1 lb. 								Wild Rice (1 lb.) , subject to availability; no substitution with other grain products
Cornmeal/Flour (5 lb. or 2 lb. bag)	Up to 2 units per person								Yellow Cornmeal (5 lb.), All Purpose Flour (5 lb.), White Whole Wheat Flour (5 lb.), Blue cornmeal (2 lb.)
Bakery Mix (20 oz. bag)	1 unit per person								
Saltine Crackers/ Whole Grain Tortillas (1 lb. pkg.)	1 unit per person 1 – 16 oz. package counts as 1 unit								

FNS HANDBOOK 501
EXHIBIT O

<i>Household Size</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>	<i>6</i>	<i>7</i>	<i>8</i>	
USDA Food	Number of Items Per Month								Options
VEGETABLES and SOUP									
Canned Vegetables (15.5 oz. can) Fresh Vegetables (see attached list)	Up to 11 units per person								Carrots, Corn Kernel, Corn Cream, Hominy, Green Beans, Peas, Potatoes, Spinach, Mixed Vegetables, Diced Tomatoes, Dehydrated Potatoes (1 lb. package), Spaghetti Sauce, and Tomato Sauce. Seasonal (October-December): Sweet Potatoes and Pumpkin
Soups	Up to 3 units per person								Chunky Beef Stew (24 oz), Tomato and Vegetarian Vegetable (10.5 oz), Cream of Mushroom, Cream of Chicken (22 oz RTE)
FRUIT and JUICE									
Canned Fruit (15.5 oz. can) Fresh Fruit (see attached list) Dried Fruit (15-16 oz) 6-Cup Sleeve (24 oz.)	Up to 10 units per person								Applesauce, Apricots, Peaches, Pears, Mixed Fruit, Dried Plums, Raisins
Juices (64 oz. bottles)	Up to 2 units per person								Apple, Cherry Apple, Cranberry Apple, Grape, Orange, Tomato
MEAT, POULTRY, FISH, BEANS, EGGS, AND NUTS									
Canned Meat/Poultry/Fish (12-24 oz. can) Frozen Ground Beef (1 lb. package) Frozen Pork Chops (1 lb package) Frozen Chicken (3 -5 lbs.) Frozen Beef Roast (2 lb.) Frozen Ground Bison (1, 1.25 or 2 lbs. packages)	Any combination of units cannot exceed 3 units per person: <ul style="list-style-type: none"> • Two canned products 16 oz (1 lb.) or smaller are treated as 1 unit. For example, two ground beef chubs are treated as 1 unit. • Individual frozen chicken packs, beef roasts, and cans larger than 16 oz. are treated as 1 unit each. • Two 1 lb. or 1.25 lbs. of frozen ground bison packs are treated as 1 unit. • 2 lbs. of frozen ground bison packs are treated as 1 unit. 								Canned Beef, Canned Chicken, Canned Tuna, Canned Salmon NOTES: <ul style="list-style-type: none"> • Frozen Pork Ham (water added; 3 lb.) available November and December (one per person per month; no substitution with other meat products). • Wild frozen salmon (1 lb.), subject to availability; no substitution with other meat products.

FNS HANDBOOK 501
EXHIBIT O

<i>Household Size</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>	<i>6</i>	<i>7</i>	<i>8</i>	
USDA Food	Number of Items Per Month								Options
Canned Beans (15.5 oz. can) Dry Beans (2 lb. bag)	Up to 4 units per person (A 2 lb. bag of dry beans counts as 2 units)								Vegetarian, Kidney, Refried (no fat added), Black, Pinto, Great Northern
All Purpose Egg Mix (6 oz. package)	Up to 2 units per person								
Smooth Peanut Butter (18 oz.) or Roasted Peanuts (16 oz.) or Fruit & Nut Mix (1 lb.)	1 unit per person								
MILK and CHEESE									
Block Process American Cheese <u>or</u> Sliced Reduced-fat Cheese Blend (5 lb. loaf)	1 per 2 mos.	1	2	2	3	3	4	4	
Skim evaporated milk (12 oz. can) <u>or</u> Instant Nonfat Dry Milk (25.6 oz. box) <u>or</u> 1% Ultra High Temperature (UHT) Milk (32 fl. oz. carton)	Any combination of units up to 8 units per person <ul style="list-style-type: none"> • One 12 oz. can skim evaporated milk counts as 1 unit • One 25.6 oz. box of Instant Nonfat Dry Milk counts as 8 units. • One 32 fl. oz. carton of 1% UHT milk counts as 1 unit 								
OIL									
Vegetable Oil (48 fl. oz.) <u>or</u> Light Buttery Spread (15 oz.) <u>or</u> Butter (16 oz.)	1	1	2	2	3	3	4	4	For 3 person and larger households: 48 fluid ounces of vegetable oil = 45 ounces of light buttery spread = 1 lb. of butter

**Food Distribution Program on Indian Reservations
Fresh Fruit and Vegetable Guide Rates**

Guide Rates:

FDPIR households may substitute 1 pound of fresh produce for 1 canned item, up to a total of 10 cans of fruit and 11 cans of vegetables per person. Some produce items are not pre-bagged, but are offered in bulk. The number of loose items equal to 1 can is listed below.

Substitution Rate:

FDPIR households may substitute 1 pound of vegetables for 1 pound of fruit up to 5 pounds of fruit per person.

<u>Vegetables</u>	<u>Equal to 1 can</u>	<u>Fruits</u>	<u>Equal to 1 can</u>
Carrots	8 medium	Apples	3 medium
Baby Carrots	1 lb.	Grapefruit	2 medium
Broccoli	1 lb.	Oranges	3 medium
Yellow Onions	4 medium	Pears	3 medium
Red Onions	4 medium	Mixed Fruit	1 lb. bag
Russet Potatoes	2 medium	Lemons	4 medium
Red Potatoes	3 medium		
Cabbage	1 medium	<u>Seasonal:</u>	
Celery	1 medium bunch	Avocado	2 medium
Mixed Vegetables	1 lb.	Peaches	3 medium
Cauliflower	1 medium (2 small)	Cherries	1 lb.
Romaine Lettuce	1 bunch	Seedless Grapes	1 lb.
Radishes	1 lb.	Honey Dew Melon	½ medium
		Kiwi	6 medium
<u>Seasonal:</u>		Nectarines	3 medium
Corn	3 large ears (5 medium)	Plums	6 medium
Asparagus	1 medium bunch	Clementines	1 lb.
Tomatoes	3 medium	Cranberries	12 oz.
Cherry Tomatoes	1 pint		
Grape Tomatoes	1 pint		
Cucumbers	2 medium		
Green Pepper	3 medium		
Brussel Sprouts	1 lb.		
Winter Squash	1 medium		
Summer Squash	2 medium		
Sweet Potatoes	2 medium		
Turnips	3 medium		



USDA Foods Available List for Food Distribution Program on Indian Reservations (FDPIR) February 2018

USDA Foods Description

WBSCM ID

PACK SIZE

USDA Foods Description

WBSCM ID

PACK SIZE

FRUITS			
Applesauce, Unsweetened, Cups	110890	6/4 oz cup	
Apricots, Halves, Extra Light Syrup, Canned	100210	24/15.5 oz can	
Fruit and Nut Mix, Dried	100297	24/1 lb bag	
Mixed Fruit, Extra Light Syrup, Canned	100211	24/15.5 oz can	
Peaches, Sliced, Extra Light Syrup, Canned	100218	24/15.5 oz can	
Pears, Extra Light Syrup, Canned	100223	24/15.5 oz can	
Plums, Pitted, Dried	100290	24/1 lb container	
Raisins, Unsweetened	100295	24/15 oz box	
<i>Juices</i>			
Apple Juice, 100%, Unsweetened	100893	8/64 oz bottle	
Cherry Apple Juice, 100%, Unsweetened	100894	8/64 oz bottle	
Cranberry Apple Juice, 100%, Unsweetened	100899	8/64 oz bottle	
Grape Juice, Concord, 100%, Unsweetened	100895	8/64 oz bottle	
Orange Juice, 100%, Unsweetened	100897	8/64 oz bottle	

PROTEIN FOODS

Beef, Canned	100127	24/24 oz can	
Beef, Fine Ground, 85% Lean/15% Fat, Frozen	100159	40/1 lb package	
Beef, Round Roast, Frozen	100166	16/2 lb package	
Beef Stew, Canned	100526	24/24 oz can	
Chicken, Canned	110478	24/15 oz cans	
Chicken, Split Breast, Frozen*	110154	6/5 lb bag	
Chicken, Whole, Frozen*	100880	10/4 lb package	
Egg Mix, Dried	100044	48/6 oz bag/pouch	
Peanut Butter, Smooth	100395	12/18 oz jar	
Peanuts, Roasted, Unsalted	100391	12/16 oz package	
Pork, Loin Chops, Boneless, Frozen	110380	40/1 lb package	
Tuna, Chunk Light, Canned	100194	24/12 oz can	

*Product available quarterly on a rotating basis.

VEGETABLES			
Beans, Green, Low-sodium, Canned	100306	24/15.5 oz can	
Carrots, Sliced, Low-sodium, Canned	100308	24/15.5 oz can	
Corn, Whole Kernel, No Salt Added, Canned	100311	24/15.5 oz can	
Corn, Cream Style, Low-sodium, Canned	100310	24/15.5 oz can	
Hominy, Low-sodium, Canned	100904	24/15.5 oz can	
Mixed Vegetables, 7-Way Blend, Low-sodium, Canned	100320	24/15.5 oz can	
Peas, Green, Low-sodium, Canned	100314	24/15.5 oz can	
Potatoes, Dehydrated Flakes	100337	12/1 lb package	
Potatoes, Sliced, Low-sodium, Canned	100331	24/15.5 oz can	
Spaghetti Sauce, Low-sodium, Canned	100335	24/15.5 oz can	
Spinach, Low-sodium, Canned	100323	24/15.5 oz can	
Tomato Juice, Low-sodium	100898	8/64 oz bottle	
Tomato Sauce, Low-sodium, Canned	100333	24/15.5 oz can	
Tomato Soup, Condensed, Low-sodium, Canned	100322	24/10.5 oz can	
Tomatoes, Diced, No Salt Added, Canned	100328	24/15.5 oz can	
Vegetable Soup, Condensed, Low-Sodium, Canned	100321	24/10.5 oz can	

LEGUMES

Beans, Black, Low-sodium, Canned	110020	24/15.5 oz can	
Beans, Great Northern, Dry	100380	12/2 lb bag	
Beans, Kidney, Light Red, Low-sodium, Canned	100372	24/15.5 oz can	
Beans, Pinto, Low-sodium, Canned	110021	24/15.5 oz can	
Beans, Pinto, Dry	100382	12/2 lb bag	
Beans, Refried, Low-sodium, Canned	100361	24/15.5 oz can	
Beans, Vegetarian, Low-sodium, Canned	100363	24/15.5 oz can	

Note: A variety of fresh fruit and vegetable options are also available through the USDA DOD Fresh Program. Please check the FFAVORS catalog for more information about product availability.





USDA Foods Available List for Food Distribution Program on Indian Reservations (FDPIR) February 2018

USDA Foods Description

WBSCM ID

PACK SIZE

USDA Foods Description

WBSCM ID

PACK SIZE

GRAINS		
Bakery Mix, Lowfat	110902	20/20 oz bag
Cereal, Corn Flakes	100449	12/18 oz package
Cereal, Corn Squares	110740	14/12 oz package
Cereal, Oat Circles (WG)	100929	12/14 oz package
Cereal, Rice Crisp	100457	16/12 oz package
Cereal, Wheat Bran Flakes (WG)	100933	14/17.3 oz package
Cereal, Wheat Farina, Enriched	110880	10/18 oz package
Cereal, Wheat, Shredded (WG)	110374	10/16.4 oz package
Corneal, Yellow	100471	8/5 lb bag
Crackers, Unsalted	100403	12/16 oz box
Flour, All Purpose, Enriched, Bleached	100400	8/5 lb bag
Flour, White Whole Wheat (WG)	110857	8/5 lb bag
Oats, Rolled, Quick Cooking (WG)	100465	12/42 oz package
Pasta, Egg Noodles	100433	12/1 lb bag
Pasta, Macaroni, Enriched	110511	20/1 lb box
Pasta, Macaroni and Cheese	101024	48/7.25 oz package
Pasta, Rotini, Whole Grain (WG)	110777	12/1 lb box
Pasta, Spaghetti, Enriched	110450	20/1 lb box
Rice, Long Grain	100492	30/2 lb bag
Tortillas, Whole Grain, Frozen (WG)	110741	24/1 lb bag

TRADITIONAL FOODS		
Bison, Ground, Lean, Frozen	110778	20/2 lb package
Bison, Ground, Lean, Frozen	110779	12/1 lb package
Bison, Ground, Lean, Frozen	110792	32/1.25 lb package
Catfish, Fillet, Frozen *	110390	20/2 lb package
Corneal, Blue (WG)	110673	12/2 lb bag
Rice, Wild (WG)*	110692	40/1 lb package
Rice, Wild (WG)*	110830	25/1 lb package
Salmon, Wild, Fillet, Frozen *	110750	40/1 lb package

*Purchases are subject to availability of funds.

DAIRY		
Cheese, American, Loaves	110199	6/5 lb package
Cheese, American Blended, Reduced Fat, Sliced	110198	6/5 lb package
Milk, 1% Shelf-Stable UHT	100050	12/32 oz carton
Milk, Instant Nonfat Dry	100065	12/25.6 oz package
Milk, Evaporated, Skim, Canned	110162	24/12 oz can

OILS		
Buttery Spread, Light	100921	12/15 oz tub
Oil, Vegetable	100441	9/48 oz bottle

OTHER		
Butter, Salted	100001	36/1 lb package
Soup, Cream of Chicken, Reduced Sodium	110163	12/22 oz carton
Soup, Cream of Mushroom, Reduced Sodium	110164	12/22 oz carton

SEASONAL PURCHASES		
Cranberry Sauce, Canned	100213	24/15.5 oz can
Pork, Pit Ham, Smoked, Frozen	110900	6/5 lb package
Pumpkin, No Salt Added, Canned	100319	24/15.5 oz can

KEY:
WG - Whole Grain
UHT - Ultra-High Temperature Pasteurization



Foods are arranged based on the food group categories found at ChooseMyPlate.gov. This site provides information about the food group recommendations and a variety of nutrition education resources that can be used to support FDPIR sites.

NATIONAL DATA BANK VERSION 8.2 - PUBLIC USE
 SSI - CHOOSE 1 FY (MONTHLY/ANNUAL DATA) - SUBSTATES BY REGIONS
 FPIPR Number of Participants

01/23/2017
 02:19 PM

Substate/Region	Oct 2015	Nov 2015	Dec 2015	Jan 2016	Feb 2016	Mar 2016	Apr 2016	May 2016	Jun 2016	Jul 2016	Aug 2016	Sep 2016	FY 2016
3699001 NV SENeca NATION, NV	374	372	343	403	325	345	355	344	320	370	330	334	361
3699003 NV ST. REGIS MOHAWK RESERVATION	90	117	96	98	105	101	104	106	97	103	91	97	100
Northeast Region	464	489	439	501	430	446	459	450	417	473	421	431	452
Mid-Atlantic Region													
2699001 MI KEWENAUA BAY Indian Community	257	254	245	251	241	232	232	236	234	246	218	251	241
2699002 MI Sault Ste Marie Tribe of Chippewa Indians	1,121	1,114	1,261	1,248	1,200	1,255	1,213	1,175	1,201	1,138	1,184	1,126	1,188
2699004 MI POKAGON POTAWATOMI	176	159	174	134	160	179	179	180	199	207	187	203	178
2699005 MI BAY MILLS INDIAN COMMUNITY	193	209	195	250	216	212	216	241	216	184	199	202	211
2699007 MI LITTLE TRAVERSE BAY BANDS OF ODJAWA INDIANS	147	154	151	163	178	202	199	199	209	204	187	174	181
2699008 MI LITTLE RIVER BAND OF OTTAWA	57	61	61	57	68	52	71	74	61	60	59	60	62
2799001 MN LEECH LAKE Band of Ojibwe Indians	388	423	354	413	382	377	404	369	410	407	406	388	393
2799002 MN WHITE EARTH Reservation Tribal Council	1,036	973	959	953	864	962	1,008	970	1,016	943	951	977	970
2799003 MN BOIS FORT RESERVATION TRIBAL COUNCIL	90	76	96	93	93	113	109	102	99	95	99	105	98
2799004 MN FOND DU LAC RESERVATION	412	435	432	389	399	444	384	408	382	386	389	412	402
2799005 MN MILLE LACS BAND OF OJIBWE 43408	112	191	112	165	180	165	175	167	166	201	170	210	183
2799006 MN GRAND PORTAGE RESERVATION	55	55	50	45	54	68	74	64	66	47	55	51	57
2799007 MN RED LAKE BAND OF CHIPPEVA INDIANS	482	464	469	515	433	510	509	504	501	507	533	533	498
5599001 WI St. Croix Tribal Council	50	54	23	38	33	51	45	43	52	31	31	49	42
5599002 WI STOCKBRIDGE-MUNSEE COMMUNITY	50	53	47	39	35	35	36	37	35	37	34	34	39
5599003 WI HO-CHUNK NATION (WINNEBAGO)	891	606	779	816	625	734	778	662	801	759	702	792	745
5599004 WI BAD RIVER RESERVATION	229	204	234	235	220	230	239	212	246	204	224	227	224
5599005 WI LAC COURTE	639	635	633	630	625	626	639	641	639	640	633	640	635
5599006 WI MENOMNEE INDIAN TRIBE	533	530	551	555	579	602	560	567	592	546	554	550	560
5599007 WI RED CLIFF RESERVATION	227	207	249	249	218	231	239	239	222	215	203	206	225
5599008 WI ONEIDA TRB IND WIS	567	628	664	647	677	629	656	660	674	665	680	686	662
5599010 WI IOLAQ DU FLAMBEAU	295	295	297	295	269	273	272	270	287	277	287	277	277
5599011 WI SOKAKOON-CHIPPEWA	43	42	37	38	41	35	38	44	48	45	48	53	43
Midwest Region	8,147	7,822	8,193	8,208	7,790	8,237	8,275	8,044	8,325	7,977	8,020	8,191	8,102
3599001 NM PUEBLO OF ACOMA, NM	251	261	268	280	257	251	236	244	256	240	246	237	252
3599002 NM EIGHT NORTHERN INDIAN PUEBLOS COUNCIL, INC. I	1,408	1,368	1,380	1,392	1,400	1,414	1,404	1,407	1,413	1,332	1,386	1,358	1,389
3599004 NM PUEBLO OF ZUNI, NM	724	746	762	794	760	785	762	726	754	716	686	684	742
3599005 NM FIVE SANDOVAL INDIAN PUEBLOS, NM	508	485	515	508	512	508	499	520	525	508	508	474	506
4099001 OK CHOCTAW NATION, OK	5,434	5,469	5,420	5,485	5,339	5,301	5,280	5,294	5,535	5,541	5,731	5,633	5,457
4099002 OK CHICKASAW NATION, OK	4,159	4,198	4,290	4,178	4,198	4,201	4,361	4,501	4,549	4,588	4,689	4,692	4,384
4099004 OK MUSCOGEE (GREEN) NATION	3,240	3,408	3,246	3,563	3,218	3,246	3,261	3,286	3,300	3,543	3,586	3,394	3,394
4099005 OK CHEYENNE-ARAPAHOE	1,640	1,558	1,438	1,479	1,420	1,346	1,394	1,448	1,479	1,445	1,516	1,548	1,469
4099006 OK CHEROKEE NATION, OK	11,955	11,852	12,115	11,946	10,892	11,021	11,149	10,926	11,722	11,672	11,814	11,958	11,585
4099008 OK COMANCHE INDIAN	917	824	890	837	806	832	823	849	879	863	926	907	863
4099009 OK OSAGE TRIBE, OK	716	795	799	767	670	712	714	712	753	767	745	751	742
4099010 OK PAWNEE TRIBE, OK	300	278	286	319	305	324	293	312	300	303	356	325	308
4099013 OK KIOWA TRIBE, OK	254	288	284	292	267	324	324	312	359	350	373	357	316
4099017 OK SEMINOLE NATION OF OKLAHOMA	672	716	741	779	690	779	781	818	804	823	818	818	769
4099018 OK PONCA TRIBE OF OKLAHOMA	452	454	430	432	405	369	381	403	465	430	438	414	423
4099019 OK SACS AND FOX TRIBE	1,999	1,985	2,018	2,014	1,818	1,914	1,748	1,834	1,915	1,881	1,933	1,957	1,918
4099020 OK APACHE TRIBE OF OKLAHOMA	832	832	827	821	793	760	812	797	840	847	798	847	811
4099021 OK WICHTA TRIBE	162	161	162	181	174	181	211	196	211	205	209	204	188
4099022 OK INTER-TRIBAL COUNCIL, OK	1,012	998	1,054	1,004	945	887	918	890	912	1,001	1,001	974	962
4899022 TX ALABAMA-COUSHATTA	126	124	135	124	120	113	132	138	121	118	114	117	124
Southwest Region	36,861	36,820	37,090	37,195	34,989	35,265	35,438	35,672	37,122	37,123	37,999	37,642	36,601
0899001 CO SOUTHERN UTE	135	142	130	181	168	140	152	169	188	164	180	194	162
0899002 CO UTE MOUNTAIN FINANCIAL SERVICES DEPT.	286	301	291	286	272	267	290	282	280	286	270	264	280
2099001 KS KICKAPOO TRIBE IN KANSAS	166	156	143	162	147	133	122	133	145	148	148	134	143
2099002 KS PEABIE BAND OF POTAWATOMI INDIANS	266	285	261	288	270	267	265	277	257	260	297	280	273
2099003 KS UN. TRB. KS. & SE NE	168	164	181	182	189	199	165	171	176	161	180	159	176
3092701 MT MT SOCIAL & REHABILITATION SERVICE	0	0	0	0	0	0	0	0	0	0	0	0	0
3099001 MT BLACKFEET-BROWNING	414	399	385	371	359	368	348	363	399	385	388	358	378
3099004 MT NORTHERN-CHEYENNE	602	571	594	654	565	622	629	554	589	585	586	545	589
3099006 MT CROW TRIBE OF INDIANS	223	208	198	223	220	223	230	218	258	243	240	228	228
3099007 MT FORT BELKNAP COMMUNITY COUNCIL	486	464	503	513	508	524	547	543	586	569	589	598	538
3099008 MT ROCKY BOY	458	445	457	454	412	438	423	409	420	428	428	389	428
3099009 MT FLATHEAD RESERVATION	454	462	481	527	458	481	476	480	530	501	493	537	490

Substate/Region	Oct 2015	Nov 2015	Dec 2015	Jan 2016	Feb 2016	Mar 2016	Apr 2016	May 2016	Jun 2016	Jul 2016	Aug 2016	Sep 2016	FY 2016
3099010 MT FORT PECK RESERVATION	605	529	618	649	648	703	665	647	658	689	734	799	662
3199001 NE OMAHA TRIBE	721	649	604	686	586	632	609	634	621	646	597	627	634
3199002 NE WINNEBAGO TRIBE	584	489	533	585	617	485	589	617	645	566	615	597	569
3199003 NE Santee Sioux, NE	193	217	177	180	153	189	188	203	200	197	191	213	193
3891501 ND ND DEPT OF PUBLIC INSTRUCTION	0	0	0	0	0	0	0	0	0	0	0	0	0
3899001 ND STANDING ROCK SIOUX TRIBE	1,772	1,732	1,782	1,896	1,806	1,850	1,891	1,857	1,994	1,997	1,965	1,900	1,870
3899002 ND THREE AFFILIATED TRIBES, ND	401	496	446	562	490	522	603	570	659	626	637	647	555
3899004 ND TURLE MOUNTAIN	2,118	2,118	2,097	2,220	2,146	2,211	2,202	2,224	2,450	2,311	2,449	2,328	2,239
3899006 ND TRENTON (TSA), ND	185	225	211	233	213	207	223	199	217	235	216	212	212
3899008 ND SPIRIT LAKE TRIBE	749	773	755	801	698	779	804	790	844	813	864	754	785
4699001 SD CHEYENNE RIVER, SD	807	776	814	858	875	897	893	926	969	1,022	997	984	902
4699002 SD ROSEBUD SIOUX, SD	1,569	1,527	1,505	1,539	1,522	1,557	1,593	1,552	1,575	1,557	1,602	1,563	1,563
4699003 SD SD OGLALA SIOUX	4,175	4,410	4,175	4,300	3,712	4,300	4,350	4,198	4,334	4,269	4,633	4,495	4,259
4699006 SD Sisseton-Wahpeton OYATE	665	674	597	657	625	609	654	643	649	673	698	683	662
4699007 SD LOWER BRULE SIOUX TRIBE	391	390	395	394	402	372	391	415	425	439	433	467	409
4699008 SD CROW/CREEK SIOUX TRIBE	303	315	318	304	296	322	304	316	334	332	334	305	315
4699011 SD YANKTON SIOUX TRIBE	382	386	370	397	380	406	402	376	438	472	446	433	405
4699012 UT UTE INDIAN TRIBE	362	368	275	365	387	408	490	481	485	352	482	477	421
5699003 WY NORTHERN ARAPAHO TRIBE	834	752	698	808	688	788	841	858	924	918	972	918	824
5699004 WY SHOShone INDIAN TRIBE	233	260	289	272	224	266	277	279	302	264	306	312	272
Mountain Plains	20,707	20,755	19,996	21,567	19,904	21,232	21,446	21,339	22,520	21,960	22,989	22,493	21,426
0299024 AK ALASKA NATIVE TRIBAL HEALTH CONSORTIUM	486	507	571	586	697	706	701	706	728	711	699	706	650
0499004 AZ GILA RIVER INDIAN COMMUNITY	660	581	616	604	608	604	613	604	676	646	661	622	624
0499005 AZ WHITE MT. APACHE TRIBE	1,020	1,021	1,103	1,097	952	1,034	1,022	980	1,085	1,020	1,086	1,018	1,037
0499006 AZ TOHONO OODHAM NATION	366	356	358	332	330	302	332	326	326	327	311	302	331
0499007 AZ NAVAJO TRIBE, AZ	7,557	7,493	7,648	7,974	7,640	7,735	7,522	7,576	7,915	8,017	7,909	7,460	7,704
0499008 AZ SAN CARLOS APACHE TRIBE	1,267	1,182	1,211	1,253	928	1,135	1,212	1,244	1,367	1,372	1,313	1,359	1,237
0499010 AZ QUECHAN RESERVATION	711	639	633	610	506	543	579	518	588	566	586	638	591
0499011 AZ COLORADO RIVER INDIAN TRIBES	339	319	319	360	339	341	358	377	375	392	424	363	363
0699003 CA FORT MOJAVE RESERVATION	231	259	186	255	247	205	280	256	270	269	300	259	251
0699004 CA HOOPA VALLEY RESERVATION	894	865	867	833	807	836	797	813	817	812	812	801	829
0699005 CA Riverside - San Bernardino	555	547	517	490	470	449	451	435	468	440	457	480	480
0699006 CA SO. CALIF. TRIBAL ASSOC.	507	467	386	487	479	448	443	437	461	466	435	452	457
0699007 CA TULE RIVER IND HC	376	390	376	358	342	316	322	280	351	334	359	360	339
0699014 CA SHERWOOD VALLEY POMO INDIANS	2,028	1,984	1,769	1,996	1,950	2,160	1,938	1,935	1,997	1,995	1,966	1,885	1,962
0699021 CA YUROK TRIBE	509	519	522	530	534	510	491	449	436	441	466	440	487
1699001 ID NEZ PERCE TRIBE OF IDAHO	782	720	685	653	647	654	674	743	767	792	775	741	715
1699002 ID SHOShone-BANNOCK TRIBES	723	867	510	654	616	579	552	523	494	541	572	527	580
1699003 ID COEUR D'ALENE RESERVATION	405	367	400	435	389	368	418	424	418	386	463	454	411
3291101 NV Nevada Department of Agriculture	544	592	555	585	570	606	520	494	550	555	528	517	552
3299002 NV Yentona Paiute	834	760	765	788	757	727	748	694	727	738	679	764	748
3299005 NV Shoshone-Paiute Tribe	190	178	170	162	157	170	177	168	172	155	158	149	167
4199001 OR OR HOUSING & COMM SERV	185	164	158	158	30	28	25	20	32	28	23	26	159
4199002 OR Burns Paiute	30	32	30	29	30	224	229	237	241	226	214	238	230
4199003 OR SILETZ RESERVATION	238	223	227	225	203	224	200	227	102	92	111	113	109
4199004 OR CONFED TRIBES WARM SPRINGS	126	125	124	88	124	102	100	92	99	113	111	123	109
4199005 OR KLAMATH RESERVATION	286	290	288	320	272	255	242	237	242	249	230	236	263
4199008 OR CONNED. TRIBES OF UMATILLA	296	290	288	155	172	170	150	146	157	137	151	154	155
5399001 WA Yakima Indian Nation	497	480	464	560	516	547	513	537	502	506	532	522	515
5399002 WA COLVILLE CONFEDERATE TRIBE	496	493	482	485	468	462	430	421	410	421	431	454	453
5399005 WA Lummi Indian Business Council	566	591	549	536	540	586	519	511	539	509	465	478	532
5399008 WA Quinalt Indian Nation	50	46	53	47	45	47	48	34	34	30	29	34	41
5399009 WA Squaw Puget Intertribal Planning Agency	213	221	210	194	219	230	231	242	244	247	224	220	225
5399010 WA Small Tribes Organization of Western Washington	1,491	1,335	1,403	1,519	1,398	1,423	1,428	1,456	1,366	1,373	1,427	1,376	1,408
5399011 WA MUKWAH TRIBAL COUNCIL	73	62	82	83	95	80	80	69	76	75	68	83	77
5399012 WA Quileute Tribal Council	12	12	8	28	21	14	17	14	19	5	1	8	15
5399013 WA Spokane Tribe of Indians	141	128	132	157	159	151	146	140	131	152	135	153	144
Western Region	25,352	24,520	24,319	25,490	24,138	24,757	24,329	24,129	25,021	24,927	24,982	24,444	24,701
U.S. Summary	93,445	92,252	91,699	94,631	88,865	91,665	91,959	91,410	95,098	94,077	96,236	95,016	93,038