SUPPLY CHAIN COACH, INC.

Regional Cut Flower Shipping Consolidation Study

September 28, 2015

7172 REGIONAL ST, DUBLIN, CA 94568-PHONE 925 833-1955

Table of Contents

Executive Summary

The County of Monterey flower growers represent an estimated 42 growers in the Northern California region. Northern California competes with Southern California for flower sales to final customers throughout the country. In Southern California, the five counties of Los Angeles, Orange, Riverside, San Bernardino, and Ventura are all combined to make up the Greater Los Angeles Area with over 17.5 million people. With over 22 million people, southern California contains roughly 60% of California's population. Because this demographic drives more inbound freight movements into the area, the cost to ship flowers from Southern California is about 20% less than it is from Northern California. The cost differential causes Northern California flower growers to lose market share to Southern California growers.

This report evaluates the County of Monterey cut flower industry's current transportation practices and investigates the feasibility and cost of establishing one or two consolidation centers in Northern California to consolidate in Oxnard into multi stop truckloads to the incumbent carriers - Armellini, Prime and Florida Beauty. We used historical sales data provided by growers in the County of Monterey. Applying modern optimization methodologies, we determined the optimal solution with the current transportation/consolidation practices and compared it to additional consolidation scenarios. We performed extensive scenario testing using statistically justified extrapolations of the available sales data to predict the cost savings of a consolidation center based on different levels of participation by California growers.

A multi-stop refrigerated truckload picking up at both consolidation centers and stopping at each carrier can generate a savings of $6.66 per shipment which would be about $1,000 a week, based on grower data in the analysis. These potential cost savings provide California growers with the means to be considerably more competitive with Southern California. Northern California growers stand to benefit from this sensitivity if they can reduce the transportation costs to get the shipments to Oxnard. The customer then pays transportation costs from Southern California through the three existing carriers.

The cold chain for cut flowers is very important in ensuring that top quality stems are delivered to the final customer. There is a lapse in the cold chain at the current consolidation centers in Watsonville and Salinas. Updating the current facilities to ensure the cold chain is intact through the whole transportation process would be an added benefit for the Northern California growers' customers. We recommend CCFC or a purposefully established grower cooperative have overall management of a shipping consolidation facility and accompanying call center. They should take a phased approach to implementation. This would consist of integrating new processes with selected regions and its customers in steps.

1 Introduction

California's unique climate allows its flower growers an advantage in producing the finest cut flowers in the world. The County of Monterey engaged Supply Chain Coach, Inc. (SCC) to research the business plan of developing a Centralized Shipping Consolidation Center for the County of Monterey – a new transportation model for the County of Monterey cut flowers.

History 1.1

The Domoto family started some of the earliest known commercial flower nurseries near Oakland, California in the 1890s. The four brothers were born in Japan and immigrated to the United States in the 1880s. After working for several years independently, the brothers pooled their resources and started a nursery. In the 1920s, the brothers began bringing students to the United States from their village in Japan and educating them in the United States. This became known as the Domoto College.

At the turn of the last century, most towns had at most one florist. Today, retail florists number some 40,000 nationwide, in addition to thousands of supermarket cut flower departments and kiosks on city streets and in shopping malls.

The cut flower industry is a significant contributor to the state's economy. In 2006, California led the country with $316 million in cut flower sales, representing 77 percent of the U.S. total (USDA 2007). The state offers an astounding variety of cut flowers and greens because of its mild climate and advanced greenhouse technology, from long-lasting blooms for the holidays such as orchids, mums, California's prize roses, tender tropical lilies, and gardenias to exotic varieties such as bird-of-paradise, Banksia, and old fashioned garden favorites like Delphinium, daffodils, statice, iris, tulips, freesia, stephanotis, daisies, and chrysanthemums.

The Challenge Today 1.2

There are currently two major challenges for the County of Monterey flower growers and shippers.

1. The first issue is the added cost the grower's customer pays for shipments coming from Northern California to be consolidated with other California growers for the three transportation companies who currently consolidate in Oxnard. Is there a way to reduce the transportation costs that the customer pays to the main flower carriers in California?

2. The second challenge is to maintain the cold chain for all shipments. Current consolidation conditions do not allow for the cold chain to be intact for all steps in the transportation network.

Project Goals 1.3

1. Evaluate the County of Monterey cut flower industry's current transportation practices and investigate the feasibility and cost of shipping consolidation from one or two consolidation centers to Oxnard, CA.

2. Examine combining shipments in geographical areas in the United States (such as Chicago) direct to deconsolidation center and bypass the Oxnard carrier facilities.

3. Evaluate a County of Monterey logistics program that consolidates volume and reduces transportation costs. This program would need to appeal to a county wide stakeholder group of growers and a nationwide group of flower buyers.

4. Evaluate a county wide program that ensures cold chain management practices and product quality control.

5. Define the facility and/or facilities needed for the consolidation center(s) e.g. employees, size, costs, and sources of financing.

Study Approach 1.4

There are three phases to our approach:

- Data collection
- Strategic modeling
- Implementation plan

The first phase is the collection of shipment data from growers. The goal of data collection is to aggregate historical shipments to evaluate current shipping destinations. A data analysis of current shipments is performed on submitted grower data to evaluate current transportation practices. The second phase is exercising a strategic concept model to evaluate various what-if scenarios in order to identify opportunities to lower costs and improve the cold chain. The study will concentrate on the optimization methodology for shipping from a single or two consolidation centers.

2 County of Monterey Data Analysis

Outbound data from the growers/shippers in the County of Monterey are needed for this project. Data type is determined by the freight terms (e.g., FOB origin or destination) and the required payment method (e.g., *collect*, *pre-paid*, *pre-paid and add*). Data for freight shipments is generally available to those organizations that pay for the freight - either from a contracted freight payment company or from an internal sales order, accounting, or transportation management system.

Since most growers quote FOB destination (*collect*), their customers have historically been responsible for contracting and coordinating delivery and the negotiated payment for their own freight costs with industry carriers, and therefore they own the freight spend data. However, when the freight is *pre-paid* and in certain instances when the freight is *pre-paid and add*, the data is only available in their Sales Order Management Software with quantities and grower types without the cost of transportation, because the company paying the freight has access to the cost of the shipment. Each grower provided historical shipment information without freight cost. SCC got data from 10 growers which represent 23% of the growers but only six, or 14%, of the growers within the region provided usable information. Six of the 42 County of Monterey growers participated in the transportation study. They submitted sales data that included shipment origins, destinations, dates, box dimensions, and volume for anywhere from one week to one year's worth of data. Based on not receiving all information from the growers, it is unclear what the total market is for the County of Monterey.

Data Collection Procedures 2.1

The most difficult task was to get the growers to provide data. It took a lot of effort on multiple fronts and the results were very disappointing and points out the need for a way for the collective growers to capture shipping data if they ever want to reduce the cost to serve their customers. The following is what took place and what we were able to collect.

A list of the County of Monterey growers was provided to SCC from Kasey Conquest, Janet Louie, Janice Willis Curtis, and Michael LoBue. Their list was a total of 42 growers to contact in the County of Monterey. To determine what data, if any, the growers may be able to provide, we drafted a nine question survey to access how to request the data.

- Survey to List of Growers
    - The survey was used to determine the technology used at the growers/shippers, what type of information they can provide, and if the items they were shipping would fit within our analysis.
    - All growers on the list were sent an initial email with a link to the survey with the questions below.
        i. Do you use software to manage the following?
            1. Sales Orders, Shipping Orders, Invoices, Purchase Orders, None
        ii. Which of the following do you capture in your order system?
            1. PO Number, Sales Order Number, BOL Number
        iii. Are you able to provide order shipping detail for the following?
            1. Customer Name, Customer Acct#, Customer Ship To Address, Customer Bill To Address, None
        iv. What dates are captured in your system?

1. Requested Ship Date, Actual Ship Date, Requested Delivery Date, Actual Delivery Date

v. Does your order system capture down to the line item?
    1. Weight, Cube, Box Dimension, Packaging Type, None
vi. What item or shipment details do you capture?
vii. It would be ideal for us to have one year's worth of data. However, if that is not possible, for what time frame would you be able to provide?
viii. Are you currently shipping with FedEx?
ix. If shipping with FedEx, are you able to provide FedEx shipment data?

- Responses to the Survey
    - There were a total of 14 growers/shippers that responded to the survey. *See Appendix 1A.*
    - After the initial email, each contact was called to see if we could get the answers to the survey over the phone.
        - Most of the phone calls resulted in voicemails but six of the calls resulted in them responding that they were not interested in participating in the study.
        - Each grower was contacted via phone call two times by SCC employees.
        - Janet Louie also called the growers that she knew personally to try and get more involvement from the growers. She also noted which growers would be a good fit for the study.
    - Two additional emails were sent to the growers to try and get their participation in the survey.
    - Due to the low response of the survey, the data template was sent to each of the growers on the list by an SCC employee and directed to contact SCC if there were any questions on populating the data template.
    - Jennifer Liccardi, a SCC employee, sent the data template to the survey responders explaining what information was needed in order to complete the study. A total of three emails were sent to the growers with the data template if no responses were received from the initial email. Follow up phone calls were made to the emails as well.
        - Most phone calls and emails were not returned
    - Jennifer Liccardi then proceeded to send the template to all of the 42 growers on the survey list to see if additional data could be received.
    - Kasey Conquist (CEO of CCFC) sent out a final email to Monterey and Santa Cruz County Flower Farms asking for one week's worth of data stating that in order to have a valid study, more information was needed from growers.
        - It was anticipated that there would be some inquiries from the growers asking for the exact information that was needed, but there were no responses from that email.

- Weekly Meetings
    - Weekly meetings were held with Janet Louie, Michael Lobue and the SCC team to discuss the survey results and the status of the data.
    - During the calls, it was discussed which growers should be our focus as they are the higher volume shippers.
    - Janet Louie and Michael Lobue offered their services to contact growers to explain the study and what information was needed from each grower.

- Janet Louie also talked with Armellini, Prime, and Florida Beauty to see if we could get shipping information from them. We did not receive information from them as they were unresponsive to SCC employees when email requests were sent.
- In mid-July, Kasey Conquist was brought into the meetings as well to see what he could do to help with getting shipping data from the growers.
- Chris Johnson also started attending the meetings and said he could contact Central California Flower Growers, Lake Flower and Fiorabella. After multiple calls and emails, we did not receive the data information from Central California Flower Growers or Fiorabella after they promised to send data. Lake Flower did provide information, but it was too late as the analysis had already begun.

- California Association of Flower Growers & Shippers – Fun 'N Sun Meeting
  - Michael Lobue suggested that Tom French attend the annual members meeting as both he and Kasey Conquest would be there and could help us to meet growers to request information.
  - Michael Lobue talked with Armellini before the meeting and asked if they would be able to provide data. They replied yes, saying they would send the information after the show.
  - Tom French also meet with Andrew Muller of Armellini at the convention and he stated Armellini would be willing to respond.
  - Jennifer Liccardi emailed Andrew Muller with the data template and a summary of the request. Andrew responded, but the information he was willing to provide was not to the level of detail needed. Voicemails were left with Andrew but no other response was received after the voicemails.
  - At the convention, Tom French meet with the following growers:
    - Kitayama Brothers – Robert Kitayama: He asked Robert why he sent paper invoices as they were able to supply better data to the USC study and he responded that was the minimum they could provide as they were updating their technology.
    - CamFlor Flowers – Carlos Cardoza: He stated they would submit data and that he produces about one half to a full truck load every day. He also stated he would like to be considered for the Consolidation center as he had property across the road. Before getting sick, he designed and had quoted a building. He stated that he would check his bank and supply that information.
    - Lake Flowers – Chava Rodriquez: He stated they would supply data for the study.
    - California Flower Exchange- Jim Toshiro: Jim stated they do not ship but primarily deliver locally.
    - Best Flowers – Craig Haberler: He stated he is a broker and doesn't ship flowers anywhere.
    - Mt Eden flower Company – Robert Shibate: He stated he changed his business because he saw what South America was going to accomplish and, as a result, does not ship any flowers.
    - Tom also meet with Michael LoBue and Chris Johnson who stated they would make calls after the show to help get some more growers to provide data.

- Data Requirements
  - Outbound shipments from the grower's facility to end customer

- Shipment ID
- Ship Date
- Origin Information
- Destination Information
- Boxes Shipped
- Cube Shipped

Data Summary 2.2

Data was received from six growers in the Monterey County area. The growers that supplied information were Camflor, Callaco, Green Valley, Kitayama, Pajarosa and Pacific Growers. We were only able to receive one week's worth of data from some of the growers.

- Camflor data was received in excel format for June 2015.
- Callaco data was received in excel format for 2014.
- Green Valley data was provided in excel format for May 2014 to April 2015 and for May 4th through the 8th, 2015.
- Kitayama data was received in the format of over 1,000 paper invoices in a box. The SCC team sorted out the invoices to determine which were useful and then input the information into the data template.
- Pajarosa data was received in pdf format for May 1 to May 11, 2015. The invoice information was entered into the data template.
- Matsui data was received in excel format for May 2014 to April 2015. Their product is potted orchids and may not be a good mix for the consolidation center and full truck load to Oxnard per Janet Louie.
- Pacific Growers data was received in pdf format for May 4 to May 8, 2015.

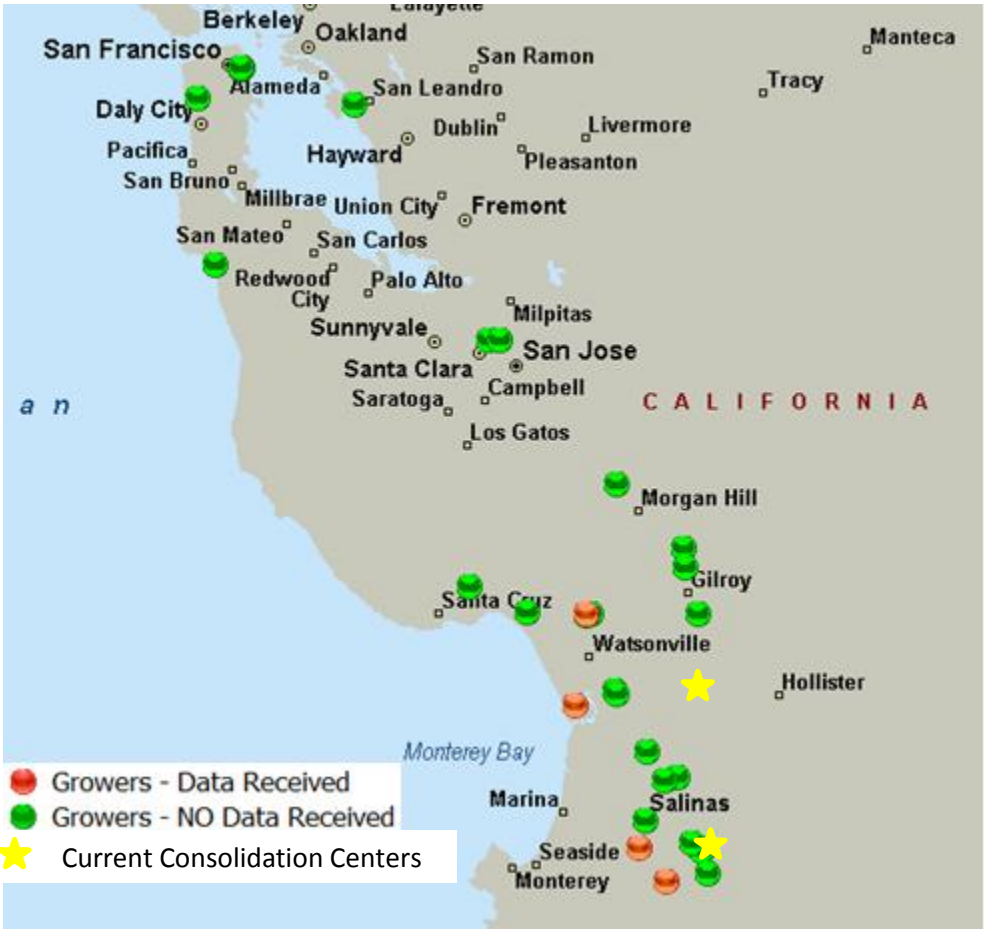
Additional growers did provide information but, after reviewing the data and discussing the grower with Janet Louie, it was determined that the following shipment information should not be included in the study.

- Matsui data was for product that is potted orchids and cannot get as cold as stem flowers.
- Floricultura Pacific data was received, but they only provide seeds to growers so use mainly small FedEx shipments.
- Headstart Nursery data was for product that is potted orchids and cannot get as cold as the stem flowers.
- Coastal Nursery provided about 5 sample shipments but as it did not even represent a full week's worth of shipments, it was not usable.
- Lake Flower Shippers provided data in just totals shipped out without the final destination or dates so was not usable.

The biggest issue that we saw when contacting growers was the fact that most of the growers are not automated. For a grower to provide this shipping information, one of their team members would need to go through invoices to put the information together. Most of the growers do not have a system that they can get the information from. Green Valley Floral does have a system that they use called Floral Trac. The information is entered onto the orders before the shipment is finalized and everything is recorded on the invoice, including any notes. The system allowed Green Valley to

quickly run one year's worth of data. Once the time frame changed to one week, Green Valley was able to quickly rerun.

A map of the growers/shippers that were contacted is provided below. The vendors which provided data are in red and the growers without data that were contacted are in green.



Assumptions 2.3

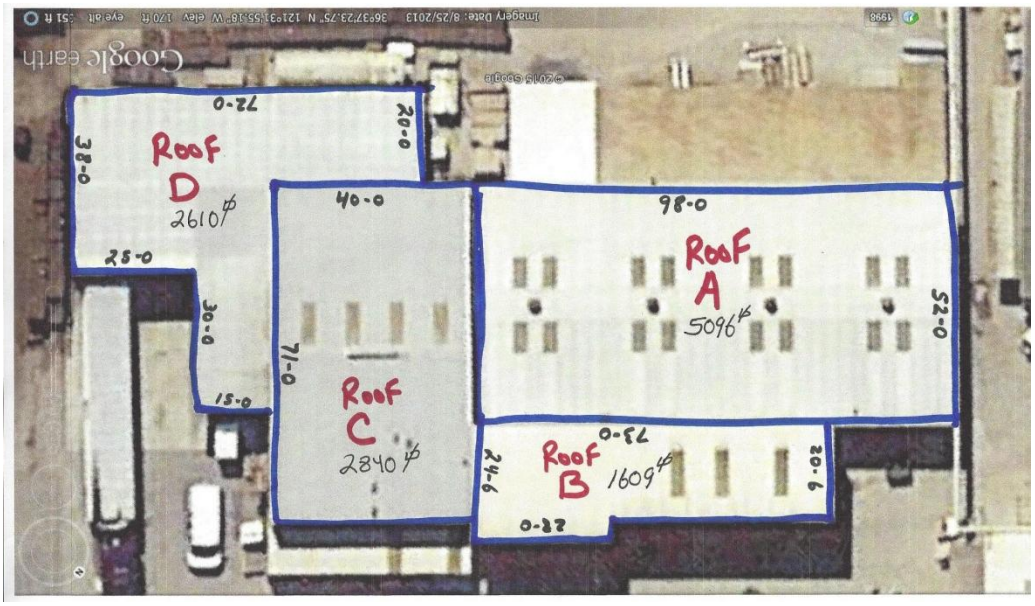
Since the timeframe of shipment data from each grower was not the same, some assumptions needed to be made in order to have a week's worth of shipments with the same dates.

- If all of 2014 data was provided, then May 4th to May 8th was taken from that history and the dates were changed to 2015.
- If one month was provided, one week's worth of data was used for the analysis. Since the dates were not the same if the shipment shipped out on a Monday, then it was given a ship date of May 4th, Tuesday was given May 5th, etc.
- If May 4th through May 8th was provided, then the actual ship dates were used.

Current Facilities 2.4

The County of Monterey currently has two grower facilities that are used for consolidation.

- Salinas Consolidation Center
    - Green Valley Floral - 24999 Potter Rd Salinas CA, 93908 - is located in unincorporated Salinas.
    - Six growers/shippers in the Salinas area consolidate their boxes in a 950 square feet refrigerated dock with two bays.
    - The growers reach the dock via a sloping sidewalk way onto the refrigerated dock; vehicles can't be drive up to the dock.
    - Armellini and Florida Beauty pick up from this facility.
    - Prime shipments are consolidated and brought via a carrier, for a charge, to Fusion Floral or Driscoli Strawberries in Watsonville.
    - There is no charge for the growers to drop their boxes off for consolidation.
    - A grower will go to the facility, check in at the office, and then drop their boxes off at the dock.
    - Deliveries are staggered based on the carrier.
    - Layout of the facility - Roof D is where the consolidation center is currently located in the 38 x 25 section.



- Watsonville
    - Central California Flower Shippers - 137 Maher Road, Royal Oaks, CA 95076 – is located in unincorporated northern Monterey County.
    - Six to eight growers/shippers in the Watsonville area consolidate their boxes in an open air dock for two bays.
    - If any shipments are dropped off early, they are stored in the cold storage at the facility.
    - Armellini and Florida Beauty pick up from this facility.
    - There is no charge for the growers to drop their boxes off for consolidation.
    - SCC was unable to get a current facility layout.

3 Methodologies

Two models, baseline and consolidation, are considered for this study. The baseline model reflects the current transportation practice performed by the County of Monterey Growers. The consolidation case assumes two consolidation centers located in Watsonville and Salinas for all products to be consolidated prior to shipping to their respective customers via Armellini, Prime, and Florida Beauty. The following numerical parameters and assumptions were made for both models:

- Time frame: one week from May 4th to May 8th, 2015
- Maximum volume per trailer: 2,600 cubic feet
- Full truckload rates: provided by SCC

The Armellini pricing from Northern and Southern California was provided by a wholesale customer out of Texas. It was assumed that Prime and Florida Beauty costs would be similar.

Due to not having historical shipping costs, assumptions were made for the baseline cost. A wholesale customer in Texas provided their cost per cube from Northern California and Southern California. The shipments were only given the option to consolidate in Northern California to send a full truckload to Oxnard and drop at the respective carriers. The shipments were not given the option to go direct to the customer due not having enough data to build a consolidated load out to the Chicago region, Texas region, etc. To account for the product's vulnerability to spoilage, we assume flowers are held at the consolidation point for no more than one day. Only historical shipments that moved via Armellini, Prime, and Florida Beauty were used in the analysis. The data was not dependent on what type of customer was receiving the flowers. Finally, the consolidation model did not consider a limited transportation fleet or a finite storage capacity at the consolidation center. Rather, the goal was to observe how the system would behave if these two parameters are infinite, and then use this behavior to determine the required fleet size and facility capacity.

The consolidation model observes the following policy: on a given day, growers will deliver their daily deliveries for Armellini, Prime, and Florida Beauty to their nearest consolidation center. The consolidation center will stage all boxes for each carrier in a specified area. Each carrier will then pick up daily from each consolidation center. The consolidation model takes advantage of two drop location for all the growers. This allows the growers to send their products to one location to be packed onto a truck.

4 Results

We evaluated the available data from the six growers using both baseline and consolidation models. However, this data only accounted for a portion of the total volume from the County of Monterey. With the volume of data received, it was not possible to determine the total market since such a small number of growers responded with data. We were told that the data received could be 70 to 80% of the volume as those that responded were the larger growers. Also, we were unable to determine if a load could bypass Oxnard due to the low volume of shipment data.

Scenario Construction 4.1

Three different scenarios were applied for the analysis. The first two scenarios look into one consolidation center. The local carriers would continue to bring their boxes to one of the two current consolidation centers. The non-local growers would have a carrier bring their boxes. The current cost to have a carrier bring boxes from Salinas to Watsonville is $2.50 per box. It was assumed that the cost would be the same from Watsonville to Salinas. The third scenario was based on keeping the consolidation centers in Watsonville and Salinas and having an outside trucking company pick up at both consolidation centers and then drop in Oxnard at Armellini, Prime, and Florida Beauty. Each of the three scenarios was also run with a full truckload assumed moving to Oxnard, CA.

Analysis 4.2

The total cube was used for each region to determine the handling costs if one consolidation center was used versus two consolidation centers. Since there was not a full set of data with all growers' shipments, a variation of the scenarios was run based on the assumption that a full truckload would be moving to Oxnard.

Scenario 1 - Consolidation Center in Watsonville

- This scenario only uses the data provided from the six growers, the data received did not equal to 2,600 cube (a full truckload) daily to Oxnard. The daily volume was much lower than the full truckload total cube amount.
- This scenario assumes one consolidation center in an unincorporated area of Monterey County outside of Watsonville, CA.
- All freight from the Salinas area would move via a local carrier to the consolidation center for $2.50 per box.
- A single truck would pick up and bring all boxes to Oxnard, CA.
- The estimated cost per cubic foot would be $0.05 higher than the estimated cost to get to Oxnard with the average cost for Armellini.
- This solution would add additional cost to the end customer.
- The full results are in Appendix 2A.

Scenario 2 - Consolidation Center in Salinas

- This scenario only uses the data provided from the six growers, the data received did not equal to 2,600 cube (a full truckload) daily to Oxnard. The daily volume was much lower than the full truckload total cube amount.
- This scenario assumes one consolidation center in Salinas, CA.
- All freight from the Watsonville area would move via a local carrier to the consolidation center for $2.50 per box.
- A single truck would pick up and bring all boxes to Oxnard, CA.
- The estimated cost per cubic foot would be $0.05 higher than the estimated cost to get to Oxnard with the average cost for Armellini.
- This solution would add additional cost to the end customer.
- The full results are in Appendix 2B.

Scenario 3 - Consolidation Center in Salinas and Watsonville

- This scenario only uses the data provided from the six growers, the data received did not equal to 2,600 cube (a full truckload) daily to Oxnard. The daily volume was much lower than the full truckload total cube amount.
- This scenario assumes two consolidation centers: one in Salinas, CA and one in Watsonville, CA.
- Since the growers drop their boxes off at their respective consolidation center, there would not be a carrier fee.
- A single truck would pick up and bring all boxes to Oxnard, CA.
- The estimated cost per cubic foot would be $0.56 less than the estimated cost to get to Oxnard with the average cost for Armellini.
- This solution would provide a savings to the customer but, with the data set provided, the average savings would be $3.97 per shipment.
- Results are in Appendix 2C.

Due to the low volume of data received, an assumption that the truckloads going to Oxnard daily would be full with all growers in the region consolidating onto the truck. The intention of the additional scenarios is to show the potential opportunity if more volume was going to Oxnard. With that being said, an additional scenario was done for each consolidation center assuming the truckload to Oxnard was full. A full truckload for the stems is 2,600 cube.

Scenario 4 - Consolidation Center in Watsonville

- All assumptions were the same as above except it was assumed a 2,600 cube load was going to the consolidation center.
- The estimated cost per cubic foot would be $0.35 less than the estimated cost to get to Oxnard with the average cost for Armellini.
- This solution would provide a savings to the customer but, with the data set provided, the average savings would be $2.48 per shipment.
- The full results are in Appendix 2D.

Scenario 5 - Consolidation Center in Salinas

- All assumptions were the same as above except it was assumed a 2,600 cube load was going to the consolidation center.
- The estimated cost per cubic foot would be $0.35 less than the estimated cost to get to Oxnard with the average cost for Armellini.
- This solution would provide a savings to the customer but, with the data set provided, the average savings would be $2.48 per shipment.
- The full results are in Appendix 2E.

Scenario 6 - Consolidation Center in Salinas and Watsonville

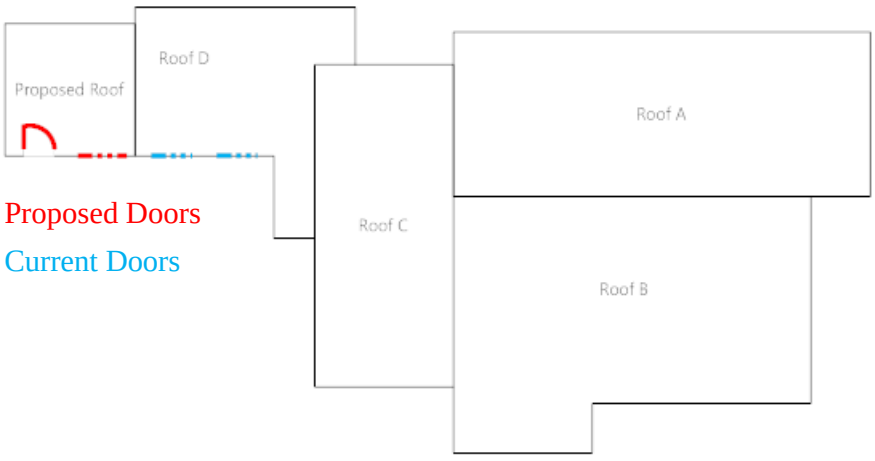
- All assumptions were the same as above except it was assumed a 2,600 cube load was going to the consolidation center.
- The estimated cost per cubic foot would be $0.94 less than the estimated cost to get to Oxnard with the average cost for Armellini.
- This solution would provide a savings to the customer but, with the data set provided, the average savings would be $6.66 per shipment.
- The full results are in Appendix 2F.

Recommendation 4.3

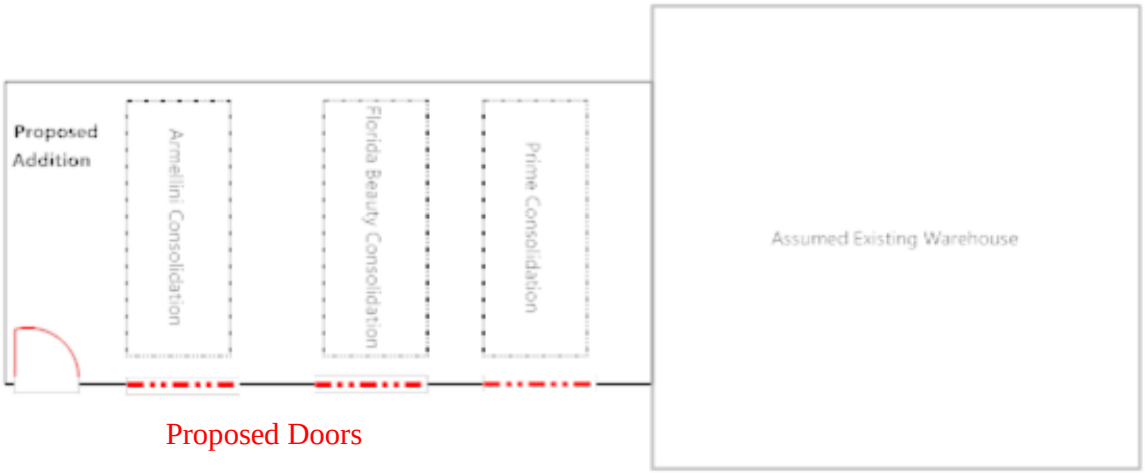
After reviewing all scenarios and the estimated cost per cubic foot, the recommendation is to maintain the two facilities as the increased cost to deliver to one facility would increase the cost to the final customer. Please note that the analysis was based on the assumption that this is 80% of the shipment data.

Facility Upgrades

- Salinas Consolidation Center
  - Green Valley Floral - 24999 Potter Rd Salinas CA, 93908
  - Upgrades needed for current level of consolidations estimated at $60,000
    - Separate grower door installation
    - Concrete step and staging area
  - Upgrades needed for increased consolidations - $100,000
    - An additional bay which would make for three consolidation areas
    - Refrigeration for consolidation area only; the two bays are currently tied into the main refrigeration
    - Green Valley Floral has an additional 20ft x 35ft to the left of Roof D where it proposes a new roof. This additional space will be used for the grower's entry door.



- Watsonville Consolidation Center
    - Central California Flower Shippers - 137 Maher Road, Royal Oaks, CA 95076
    - Upgrades needed for increased consolidations - $300,000
        - Build a 2,000 square foot building with 3 bays and an entry door
        - Install refrigeration in the new building
        - Add a walkway to enter the consolidation area



Based on the volume received from six growers for the analysis the solution is not viable to save money for the end customer or increase business for the growers. Watsonville currently consolidates for 6 to 8 growers, about 1,500 cube on a daily basis, and Salinas consolidates for 6 growers, about 1,100 cube on a daily basis. With that additional volume the ability to consolidate a full truckload, 2,600 cube, down to Oxnard is a viable solution for the end customer to save and the County of Monterey growers to compete with Southern California growers based on transportation costs.

The average cube per order in the data received is 7.05 cube. In order to fill a truckload full, 2,600 cube, about 370 orders would need to be received at the consolidation centers. If the consolidation centers were to charge $1 per order the annual revenue would be $96,200 between the 2 facilities. The Salinas consolidation center annual revenue would be $40,300 assuming an average of 155 orders per day. Based on that volume, they would be able to pay off a $160,000 loan in approximately 4 years. The Watsonville consolidation center annual revenue is estimated at $55,900 assuming an average of 215 orders per day. Based on that volume, they would be able to pay off a $300,000 loan in about 6 years.

5 Implementation

The implementation for this project is to upgrade the facilities so the cold chain is intact for all portions of the transportation to the wholesale customer. Transportation savings can be assumed also if an outside carrier is used to consolidate all Northern California shipments down to Oxnard.

Implementation 5.1

Phase I – Process Flows – Create the As Is Process Flow to determine if there are adjustments that can be made in the current drop off process.

Phase II - **Upgrade Facilities -** Update both the Salinas and Watsonville facilities with the recommendations brought up by both facilities.

Phase III – **Inform Growers/Shippers -** Send a letter to all shippers in the area about the upgraded consolidation facilities and how the cold chain is intact for all deliveries for both locations.

Phase IV – **Go Live -** All Growers/Shippers ship into their assigned facility for each carrier consolidation.

Phase V – **Outside Carrier -** Determine if the outside carrier solution will work within the current environment.

6 Funding

The feasibility of the consolidation and the cost savings influence the decision to undertake the expansion in order to effect the consolidation. Based upon the above discussion, it is assumed that there are savings with consolidation and that a portion of the savings can be used to pay for the costs of expansion necessary to undertake the shipping consolidation. It is assumed, as discussed above, that the owners of the facilities would charge a consolidation fee per unit in order to pay for the expansion. Based upon those assumptions, the repayment period could range anywhere from 4 to 5½ years. After that time period, if the fee were continued, it would represent ongoing income to the property owners.

The two owners of the properties that could be used for consolidation will need to assess their own individual cost saving as well as the income that could be generated from a consolidation shipping fee. Additionally, they will need to make a decision in regard to feasibility based also upon the risk of projecting how many growers will participate.

Funding sources will vary based upon the extent of the project and the current owners' financial situation in regard to funding all or a portion of the project. The owners of the two facilities would have to assess their borrowing capabilities and what combination of funding - private equity, private lending from a bank, and/or Monterey County public funds – is the best mix for them.

The County has a Small Business Revolving Loan Fund that could provide loans for the projects. A loan can be made up to $250,000 at an interest rate ranging from prime (currently 3.25%) up to 10%, with a term of ten years. If the loan is used for anything other than equipment, Davis Bacon wages will be required for the labor which could increase the cost of construction anywhere from 10% plus. That may provide incentive to only use County funds to finance equipment.

Summary

The goal of the feasibility study was to determine if shipping savings realized through consolidation which get passed onto customers would allow growers to better compete in the marketplace. This, in turn, could lead to increased business which could save current jobs in the floral industry and perhaps lead to growth in their businesses. With the data received from a small percentage of the growers, driving savings through a consolidated truckload to Oxnard, CA is not an option. However, based upon both the current Watsonville and Salinas consolidation centers and the growers that they currently consolidate, we assume that the volume will be sufficient for a full truckload down to Oxnard daily. On this basis, the customer would benefit from savings, on average, of $6.66 per order. If the consolidation centers charged a fee of $1 per order for the usage, it would allow for repayment of the cost of improvements necessary to undertake the consolidation center model.

Appendix 1A – Survey Responses

Timestamp	Grower Name	Grower Contact Name	Do you use software to manage the following? (check all that apply)	Which of the following do you capture in your order system? (Select all that apply)	Are you able to provide order shipping detail for the following? (Check all that apply)	What dates are captured in your system? (Select all that apply)	Does your order system capture down to the line item?	What item or shipment details do you capture? (Select all that apply)	It would be ideal for us to have 1 year's worth of data. However, if that is not possible, for what time frame would you be able to provide? (Check all that apply)	Are you currently shipping with FedEx?	If shipping with FedEx. Are you able to provide FedEx shipment data?
3/25/2015 10:27	California Pajarosa	Paul Furman	Sales Orders, Shipping Orders, Invoices	Sales Order Number	Customer Name, Customer Acct #	Actual Ship Date	Yes	Packaging Type (Bunch, Box, Stem, etc)	1-3 months		
3/25/2015 10:34	Coastal Nursery	Carmen Garcia	Sales Orders, Shipping Orders, Invoices, Purchase Orders	PO Number, Sales Order Number, BOL Number	Customer Name, Customer Acct #, Customer Ship-to Address, Customer Bill-to Address	Actual Ship Date	Yes	None of the above	1 year		
4/20/2015 15:00	Green Valley Floral	Janet Louie	Sales Orders, Shipping Orders, Invoices, Purchase Orders	PO Number, Sales Order Number	Customer Name, Customer Acct #, Customer Ship-to Address, Customer Bill-to Address	Requested Ship Date, Actual Ship Date	Yes	Cube, Box Dimensions, Packaging Type (Bunch, Box, Stem, etc)	1 year	Yes	No
4/21/2015 9:21	Pacific Growers	Konrad	Invoices	PO Number, BOL Number	Customer Name, Customer Ship-to Address	Actual Ship Date		Box Dimensions	1 year	Yes	Yes
4/23/2015 10:09	McLellan Botanicals	Kim	Sales Orders, Shipping Orders, Invoices, Purchase Orders	PO Number, Sales Order Number	Customer Name, Customer Acct #, Customer Ship-to Address, Customer Bill-to Address	Requested Ship Date, Actual Ship Date	Yes	None of the above	1 month	Yes	
4/23/2015 12:48	Ameri-Cal Floral	Nate Downs	Sales Orders, Shipping Orders, Invoices, Purchase Orders	PO Number, Sales Order Number, BOL Number	Customer Name, Customer Acct #, Customer Ship-to Address, Customer Bill-to Address	Actual Ship Date, Actual Delivery Date	Yes	Packaging Type (Bunch, Box, Stem, etc)	1 month, 1-3 months, 1-6 months, 1 year	Yes	No
4/30/2015 14:21	CallaCo	Mike Ferguson	Sales Orders, Shipping Orders, Invoices, Purchase Orders	PO Number, Sales Order Number	Customer Name, Customer Acct #, Customer Ship-to Address, Customer Bill-to Address	Requested Ship Date, Actual Ship Date	Yes	Weight, Cube, Box Dimensions, Packaging Type (Bunch, Box, Stem, etc)	1 year	Yes	Yes
5/4/2015 16:00	Kitayama Brothers, Inc	Tony Scalisi	Sales Orders, Invoices, Purchase Orders	PO Number, Sales Order Number	Customer Name, Customer Acct #, Customer Bill-to Address	Actual Ship Date	Yes	Box Dimensions, Packaging Type (Bunch, Box, Stem, etc)	1 year	Yes	Yes
5/6/2015 7:21	Floricultura Pacific	Don Howell	None - we do not use software (manual)		Customer Name, Customer Ship-to Address	Actual Ship Date	No	None of the above	1-3 months	Yes	Yes
5/8/2015 16:46	Matsui Nursery Inc.	Brandon SLama	Sales Orders, Shipping Orders, Invoices	PO Number, Sales Order Number, BOL Number	Customer Name, Customer Acct #, Customer Ship-to Address, Customer Bill-to Address	Requested Ship Date, Requested Delivery Date	Yes	Packaging Type (Bunch, Box, Stem, etc)	1 year	Yes	Yes
5/9/2015 14:52	Bay Floral Company	LeAnn	None - we do not use software (manual)		None of the above				1 month	No	
5/12/2015 9:00	Kohara Nursery, Inc	Janet Fagan	Invoices	Sales Order Number	Customer Name, Customer Ship-to Address, Customer Bill-to Address	Actual Ship Date	No	Weight, Box Dimensions, Packaging Type (Bunch, Box, Stem, etc)	1 month	Yes	No
5/13/2015 15:35	Headstart Nursery, Inc.	Melissa Campilli	Sales Orders, Shipping Orders, Invoices, Purchase Orders	PO Number, Sales Order Number, BOL Number	None of the above	Requested Ship Date, Actual Ship Date, Requested Delivery Date, Actual Delivery Date	No	Weight, Box Dimensions	1-3 months	Yes	No
5/13/2015 16:15	South Pacific Orchids	Dan	Sales Orders, Invoices	PO Number, Sales Order Number	Customer Name, Customer Acct #, Customer Ship-to Address, Customer Bill-to Address	Actual Ship Date	Yes	None of the above	1 month	Yes	Yes

Appendix 2A - Watsonville Consolidation Center

						Armellini Rate to Customer		Armellini Rate to Customer	TL Estimated Cost from Watsonville to Oxnard				
						$7.81		$6.41	$850 with rate per mile & fuel ($700) and 2 stops ($75 per)				
Ship Date	**Watsonville Cube**	**Salinas Cube**	**Watsonville Boxes**	**Salinas Boxes**	**Trucks per Day**	**Northern CA**		**Southern CA**	**TL to Southern CA**	**TL Cost per Cube**	**Salinas to Watsonville cost per cube ($2.50 per box only for Salinas orders)**	**Consolidation Center Handling Charges**	**Total Cost per Cube if TL cost is just carried over with no profit**
05/04/15	934	338	396	85	1	$9,927.27		$5,984.12	$850.00	$0.91	$0.63	$0.00	$7.95
05/05/15	702	124	222	39	1	$6,455.98		$4,501.48	$850.00	$1.21	$0.78	$0.00	$8.40
05/06/15	1,214	326	423	92	1	$12,024.64		$7,779.68	$850.00	$0.70	$0.71	$0.00	$7.82
05/07/15	1,176	360	373	97	1	$11,998.42		$7,541.14	$850.00	$0.72	$0.67	$0.00	$7.81
05/08/15	1,503	447	549	120	1	$15,227.31		$9,633.44	$850.00	$0.57	$0.67	$0.00	$7.65
Grand Total	**5,529**	**1,595**	**1,964**	**433**	**5**	**$55,633.62**		**$35,439.86**	**$4,250.00**	**$0.77**	**$0.68**	**$0.00**	**$7.86**

Average Savings to Customer per Cube	**-$0.05**

Average Cube per Order	7.05	**Average Savings per Order**	-$0.34

Appendix 2B - Salinas Consolidation Center

						Armellini Rate to Customer		Armellini Rate to Customer	TL Estimated Cost from Watsonville to Oxnard				
						$7.81		$6.41	$800 with rate per mile & fuel ($650) and 2 stops ($75 per)				
Ship Date	**Watsonville Cube**	**Salinas Cube**	**Watsonville Boxes**	**Salinas Boxes**	**Trucks per Day**	**Northern CA**		**Southern CA**	**TL to Southern CA**	**TL Cost per Cube**	**Watsonville to Salinas cost per cube ($2.50 per box only for Watsonville Orders)**	**Consolidation Center Handling Charges**	**Total Cost per Cube if TL cost is just carried over with no profit**
05/04/15	934	338	396	85	1	$9,927.27		$5,984.12	$850.00	$0.91	$1.06	$0.00	$8.38
05/05/15	702	124	222	39	1	$6,455.98		$4,501.48	$850.00	$1.21	$0.79	$0.00	$8.41
05/06/15	1,214	326	423	92	1	$12,024.64		$7,779.68	$850.00	$0.70	$0.87	$0.00	$7.98
05/07/15	1,176	360	373	97	1	$11,998.42		$7,541.14	$850.00	$0.72	$0.79	$0.00	$7.92
05/08/15	1,503	447	549	120	1	$15,227.31		$9,633.44	$850.00	$0.57	$0.91	$0.00	$7.89
Grand Total	**5,529**	**1,595**	**1,964**	**433**	**5**	**$55,633.62**		**$35,439.86**	**$4,250.00**	**$0.77**	**$0.68**	**$0.00**	**$7.86**

Average Savings to Customer per Cube	**-$0.05**

Average Cube per Order	7.05	**Average Savings per Order**	-$0.34

Appendix 2C – Salinas and Watsonville Consolidation Centers

						Armellini Rate to Customer		Armellini Rate to Customer	TL Estimated Cost from Watsonville to Oxnard			
						$7.81		$6.41	$925 with rate per mile & fuel ($700) and 3 stops ($75 per)			
Ship Date	**Watsonville Cube**	**Salinas Cube**	**Watsonville Boxes**	**Salinas Boxes**	**Trucks per Day**	**Northern CA**		**Southern CA**	**TL to Southern CA**	**TL Cost per Cube**	**Consolidation Center Handling Charges**	**Total Cost per Cube if TL cost is just carried over with no profit**
05/04/15	934	338	396	85	1	$9,927.27		$5,984.12	$925.00	$0.99	$0.00	$7.40
05/05/15	702	124	222	39	1	$6,455.98		$4,501.48	$925.00	$1.32	$0.00	$7.73
05/06/15	1,214	326	423	92	1	$12,024.64		$7,779.68	$925.00	$0.76	$0.00	$7.17
05/07/15	1,176	360	373	97	1	$11,998.42		$7,541.14	$925.00	$0.79	$0.00	$7.20
05/08/15	1,503	447	549	120	1	$15,227.31		$9,633.44	$925.00	$0.62	$0.00	$7.03
Grand Total	**5,529**	**1,595**	**1,964**	**433**	**5**	**$55,633.62**		**$35,439.86**	**$4,625.00**	**$0.84**	**$0.00**	**$7.25**

Average Savings to Customer per Cube	**$0.56**

Average Cube per Order	7.05	**Average Savings per Order**	$3.97

Appendix 2D – Watsonville Consolidation Center Full Truckload

ASSUMES A FULL TL OF FREIGHT FOR ARMELLINI, PRIME AND FLORIDA BEAUTY						Armellini Rate to Customer: $7.81		Armellini Rate to Customer: $6.41	TL Estimated Cost from Watsonville to Oxnard: $850 with rate per mile & fuel ($700) and 2 stops ($75 per)				
Ship Date	**Watsonville Cube**	**Salinas Cube**	**Watsonville Boxes**	**Salinas Boxes**	**Trucks per Day**	**Northern CA**		**Southern CA**	**TL to Southern CA**	**TL Cost per Cube**	**Salinas to Watsonville cost per cube ($2.50 per box only for Salinas orders)**	**Consolidation Center Handling Charges**	**Total Cost per Cube if TL cost is just carried over with no profit**
05/04/15	1,910	690	811	174	1	$20,306.00		$12,240.38	$850.00	$0.45	$0.63	$0.00	$7.48
05/05/15	2,209	391	700	99	1	$20,306.00		$14,158.52	$850.00	$0.38	$0.63	$0.00	$7.42
05/06/15	2,050	550	715	139	1	$20,306.00		$13,137.53	$850.00	$0.41	$0.63	$0.00	$7.45
05/07/15	1,991	609	631	153	1	$20,306.00		$12,762.55	$850.00	$0.43	$0.63	$0.00	$7.47
05/08/15	2,004	596	732	150	1	$20,306.00		$12,846.44	$850.00	$0.42	$0.63	$0.00	$7.46
Grand Total	**10,163**	**2,837**	**3,588**	**714**	**5**	**$101,530.00**		**$65,145.41**	**$4,250.00**	**$0.42**	**$0.63**	**$0.00**	**$7.46**

Average Savings to Customer per Cube	**$0.35**

Average Cube per Order	7.05	**Average Savings per Order**	$2.48

Appendix 2E – Salinas Consolidation Center Full Truckload

ASSUMES A FULL TL OF FREIGHT FOR ARMELLINI, PRIME AND FLORIDA BEAUTY						Armellini Rate to Customer: $7.81		Armellini Rate to Customer: $6.41	TL Estimated Cost from Watsonville to Oxnard: $800 with rate per mile & fuel ($650) and 2 stops ($75 per)				
Ship Date	**Watsonville Cube**	**Salinas Cube**	**Watsonville Boxes**	**Salinas Boxes**	**Trucks per Day**	**Northern CA**		**Southern CA**	**TL to Southern CA**	**TL Cost per Cube**	**Watsonville to Salinas cost per cube ($2.50 per box only for Watsonville Orders)**	**Consolidation Center Handling Charges**	**Total Cost per Cube if TL cost is just carried over with no profit**
05/04/15	1,910	690	811	174	1	$20,306.00		$12,240.38	$850.00	$0.45	$1.06	$0.00	$7.92
05/05/15	2,209	391	700	99	1	$20,306.00		$14,158.52	$850.00	$0.38	$0.79	$0.00	$7.59
05/06/15	2,050	550	715	139	1	$20,306.00		$13,137.53	$850.00	$0.41	$0.87	$0.00	$7.70
05/07/15	1,991	609	631	153	1	$20,306.00		$12,762.55	$850.00	$0.43	$0.79	$0.00	$7.63
05/08/15	2,004	596	732	150	1	$20,306.00		$12,846.44	$850.00	$0.42	$0.91	$0.00	$7.75
Grand Total	**10,163**	**2,837**	**3,588**	**714**	**5**	**$101,530.00**		**$65,145.41**	**$4,250.00**	**$0.42**	**$0.63**	**$0.00**	**$7.46**

Average Savings to Customer per Cube	**$0.35**

Average Cube per Order	7.05	**Average Savings per Order**	$2.48

Appendix 2F – Salinas and Watsonville Consolidation Centers Full Truckload

ASSUMES A FULL TL OF FREIGHT FOR ARMELLINI, PRIME AND FLORIDA BEAUTY						Armellini Rate to Customer $7.81		Armellini Rate to Customer $6.41	TL Estimated Cost from Watsonville to Oxnard $925 with rate per mile & fuel ($700) and 3 stops ($75 per)			
Ship Date	**Watsonville Cube**	**Salinas Cube**	**Watsonville Boxes**	**Salinas Boxes**	**Trucks per Day**	**Northern CA**		**Southern CA**	**TL to Southern CA**	**TL Cost per Cube**	**Consolidation Center Handling Charges**	**Total Cost per Cube if TL cost is just carried over with no profit**
05/04/15	1,910	690	811	174	1	$20,306.00		$12,240.38	$925.00	$0.48	$0.00	$6.89
05/05/15	2,209	391	700	99	1	$20,306.00		$14,158.52	$925.00	$0.42	$0.00	$6.83
05/06/15	2,050	550	715	139	1	$20,306.00		$13,137.53	$925.00	$0.45	$0.00	$6.86
05/07/15	1,991	609	631	153	1	$20,306.00		$12,762.55	$925.00	$0.46	$0.00	$6.87
05/08/15	2,004	596	732	150	1	$20,306.00		$12,846.44	$925.00	$0.46	$0.00	$6.87
Grand Total	**10,163**	**2,837**	**3,588**	**714**	**5**	**$101,530.00**		**$65,145.41**	**$4,625.00**	**$0.46**	**$0.00**	**$6.87**

Average Savings to Customer per Cube	**$0.94**

Average Cube per Order	7.05	**Average Savings per Order**	$6.66