September 1999

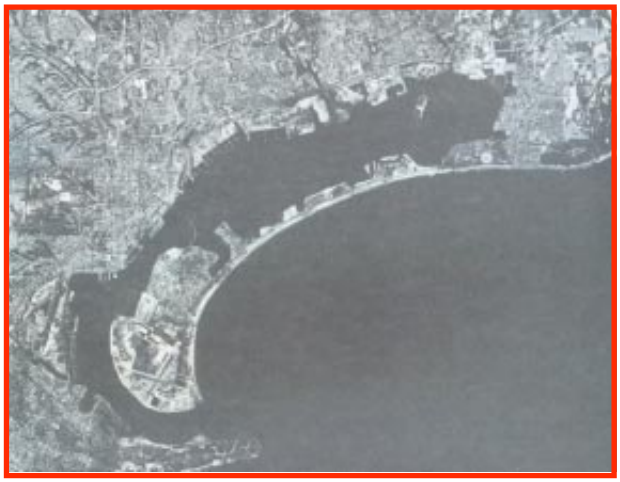
Port of Long Beach

Port Enhancement Analysis

Phase I:

Port Workload Requirements for the California Ports

Port of San Diego



Port of Oakland

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INTRODUCTION

This is Phase I of a two-phased study.

- Phase I identifies the quantity of cargo DOD plans to send through the strategic seaport, and
- Phase II considers the ports' ability to handle their assigned workload.

The Military Traffic Management Command's Transportation Engineering Agency (TEA) has analyzed ports for years. With our Ports for National Defense Program, we survey the ports that are important to national defense, defining their capabilities. We then compare these capabilities to the demand imposed by a notional unit deploying through the port. Based on this comparison, we assess the port's ability to meet its requirements. This methodology has suited us well in the past. However, as the deployment windows continue to shrink, we are forced to get our CONUS-based forces through the ports faster than ever before. Compound this with the continued economic expansion in many of these areas, and it is becoming a challenge for the ports to dedicate the real estate and facilities to respond to our requirements.

As a result, TEA realized the need to base each port's requirements on the most demanding operation plan (OPLAN) for that port. Using our modeling capability, we can work with the tremendous quantity of information in an OPLAN time-phased force deployment data (TPFDD), massage the data, and extract the detail needed to get an accurate picture of the deployment through each port.

Port of Oakland

Port of San Diego

OBJECTIVES

The objectives of this initiative are:

Phase I:

(1) Define the OPLAN-based time-phased flow of cargo through the port during a demanding deployment. This flow is defined in terms of quantity and square feet.

(2) Allow planners to assign Transportation Terminal Brigades/Battalions (TTBs) to ports based on workload.

(3) Allow TTBs to adequately prepare for deployment operations.

(4) Validate the need for deploying units to support Sea Ports of Embarkation (SPOEs).

Phase II:

(1) Assist the port commander in quantifying real estate and facility support needed from the port.

(2) In instances where the port cannot meet their requirements, provide the quantitative basis to help both DOD and commercial planners assess potential "fixes." These fixes could include:

- Re-routing cargo to another port in the region,
- Re-timing the flow, or even
- Working through the local and metropolitan planning organizations to solicit federal funds.

METHODOLOGY

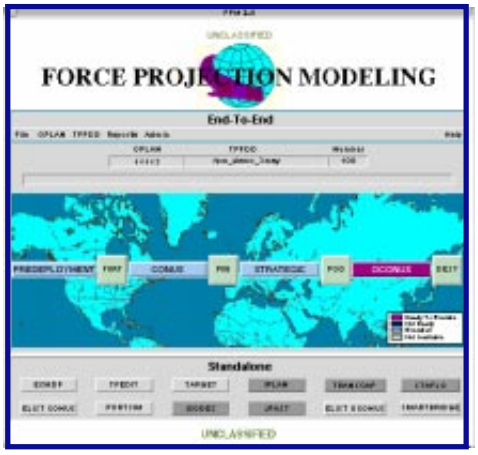
When practical, ports are analyzed on a regional basis, allowing planners to examine an entire region at one time, evaluating peaks and valleys at groups of neighboring ports. This study includes requirements for the ports of Long Beach, Oakland, and San Diego. There is only a small requirement at Port Hueneme and is therefore not included in this study. The following tools are utilized to analyze port workload:

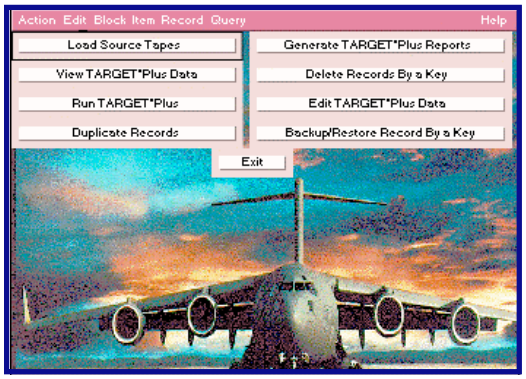
TPEDIT (TPFDD Editor) – An integrated set of automated processing tools that provides time-phased force deployment data (TPFDD) editing and analysis capability. TPEDIT allows the analyst to:

- View the TPFDD graphically.
- Extract information for the seaport of embarkation (SPOE) of interest.
- Edit the TPFDD. Remove "on-call" and "shortfalled" records.
- Review data to determine the amount of cargo (number of ULNs/CINs, quantity, square feet, short tons, measurement tons) flowing through the port.

EXPANDED TPFDD - A database shared by the simulation models and used for tracking movement requirements at the individual item level of detail. Using the expanded TPFDD the analyst can:

- Load the TPFDD into the Oracle database management system.
- "Expand" the TPFDD cargo detail within Oracle to Level 6 for the SPOE of interest.





TARGET (Transportability Analysis Reports Generator) – A system of models and programs that provide the capability to generate movement requirements at the individual item level of detail (Level 6). The system merges force structure data from the Table of Organization and Equipment (TOE) or the Modified TOE (MTOE) with equipment characteristics from the Department of the Army Standard Equipment Characteristic File (ECF) to create unit equipment tables. With TARGET, the analyst:

- Assigns transport modes by ULN/CIN (convoy/rail).
- Selects transport assets.

  Containers (20' and 40')
  Railcars (89' flatcars, 60' flatcars, 68' DODX railcars)

- Determines convoy, rail, and container requirements.

FPM REPORTS – A set of customized reports extract detailed cargo information from TARGET output files. These reports, when imported into Microsoft Excel, are the foundation of the port workload effort. The graphs are included in the results section of this report.

ASSUMPTIONS

- The requirements in this report represent:
  - The entire duration of the flow through the ports of Long Beach, Oakland, and San Diego as defined by the operation plan (OPLAN).
  - All records in the plan scheduled to move by sea under Military Sealift Command's (MSC) control.
  - The most demanding plan for each port. The plans may not necessarily be representative of the flow during an actual deployment.
- TPFDD Records not included in this analysis:
  - "On-call" records. These records are in the plan but are not scheduled to move – they appear with an available to load date (ALD) of 999.
  - "Shortfalled" records. These records are in the plan but are not sourced – they have not been matched with a specific unit.
  - Bulk petroleum, oils, and lubricants (POL) records (packaged POL is included).
- TARGET uses the following transport assets:

  Containers (20-foot, 40-foot)
  Convoy Vehicles (self-propelled, towed)
  Railcars (89-foot flatcars, 60-foot flatcars, 68-foot DODX railcars)
  NOTE: Commercial Motor was not utilized
- Containers are stuffed at their origin.
- TARGET stuffs containers and loads railcars with unit integrity. In addition, TARGET will not mix unit equipment and containers on the same railcar. This provides a conservative estimate of containers and railcars for each unit.
- If the origin is less than 400 miles from the seaport of embarkation (SPOE), roadable vehicles convoy from origin to SPOE. If the origin is greater than 400 miles from the SPOE, roadable vehicles are loaded onto railcars for transport to the SPOE. All nonroadable vehicles are loaded onto railcars for transport to the SPOE.
- The breakbulk category includes cargo coded in the TPFDD as containerizable with dimensions exceeding the allowable dimensions of a 20-foot container and nonvehicular cargo coded as noncontainerizable.

RESULTS

The charts in this report represent the daily cargo arrival in terms of quantity and square feet at the respective port. The cargo consists of containers, wheeled vehicles, tracked vehicles, floating craft, aircraft, and breakbulk.

The wheeled and tracked vehicles are categorized by weight as shown in table below.

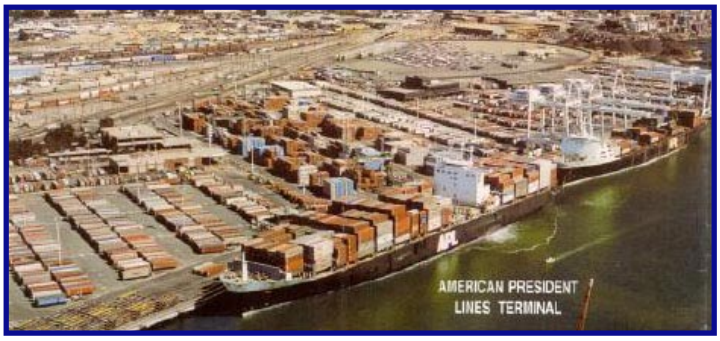
Table 1
Categories of Vehicles

	Wheeled Vehicles	Tracked Vehicles
Light	Less than 5 ST	Less than 20 ST
Medium	5-30 ST	20-35 ST
Heavy	Greater than 30 ST	Greater than 35 ST

Port of Oakland - Middle Harbor

The California ports study includes the following ports (Figure 1): Appendix A - Port of Long Beach, Appendix B - Port of Oakland, Appendix C - Port of San Diego and Appendix D - Port of San Diego Assault Follow on Echelon (AFOE). The requirements for the Port of San Diego are presented in appendices C and D. Cargo to be transported via Military Sealift Command (MSC) ship is presented in Appendix C. In addition, there is a Marine Corps AFOE scheduled to arrive at the port. Navy amphibious ships will most likely transport the AFOE, but the requirements still need to be taken into consideration since they will compete for resources at the port.

The study does not include Port Hueneme since there is only a small requirement moving by sea via MSC ship. This requirement is Marine Corps AM-2 Matting. There are additional requirements scheduled for Port Hueneme, however, the U.S. Navy is scheduled to transport those requirements.



Oakland Bay Bridge Terminal

Figure 1. Major California Ports used to Deploy Military Cargo

APPENDIX A

PORT OF LONG BEACH

The graphs below represent the cargo scheduled to arrive at the Port of Long Beach as outlined in the TPFDD. Cargo is scheduled to arrive at the port starting on day 2 and continuing through day 142.

The Port of Long Beach is scheduled to receive cargo from 27 separate origins. Figure A-1 shows all the origins in the TPFDD scheduled to send cargo to the Port of Long Beach. Figure A-2 provides the quantity of railcars required to transport the cargo to the port. Figures A-3 through A-6 illustrate the quantity of items arriving at the port. The large breakbulk spike on C+20 in Figure A-6 consists of cargo items for the Marine Corps that are coded non-containerizable such as refrigerators, loaded warehouse pallets, field desks, chain saws, and generators. Figures A-7 through A-10 illustrate the square footage of the cargo arriving at the port.

Figures A-11 through A-13 provide a breakdown of the quantity of items arriving at the port according to the mode of transportation (convoy and rail). Similarly, Figures A-14 through A-16 reflect the same information presented in terms of square footage.

Figure A-17 shows the quantity and square footage of items arriving at the port for each origin scheduled in the TPFDD. The bar graph in Figure A-18 reflects origins with more than 20 items and provides the total quantity of items by origin. The remaining origins not included in the graph are listed in Table A-1. The bar graph in Figure A-19 shows the quantity of containers arriving at the port for each origin scheduled in the TPFDD.

Figure A-20 provides cargo scheduled to arrive at the port for each origin in terms of square feet. The graph reflects origins with a total of 4,000 square feet or more. The remaining origins not included in the graph are provided in Table A-2.

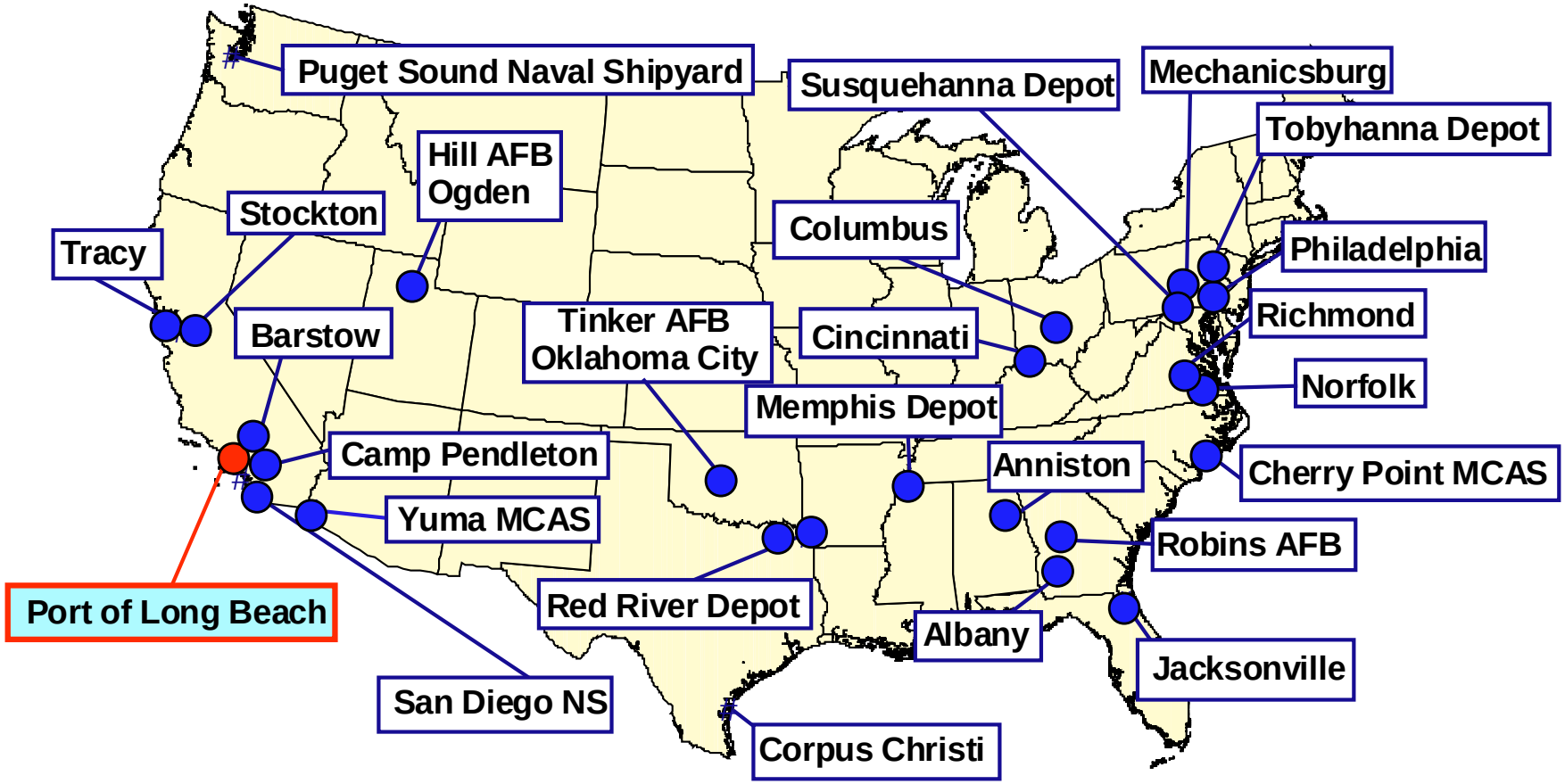


Figure A-1. Cargo Arrives at the Port of Long Beach from Many Origins

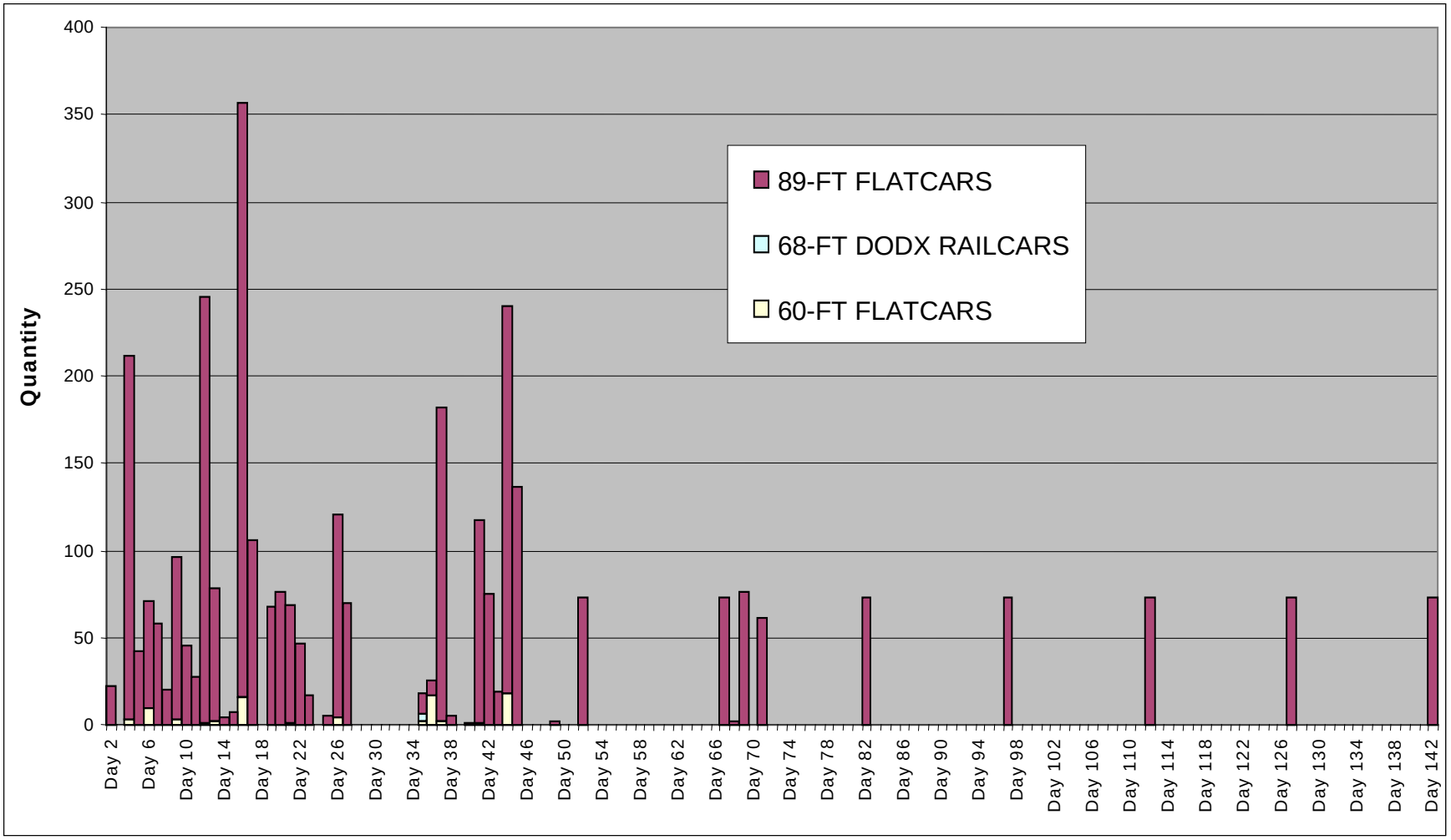


Figure A-2. Quantity of Railcars Arriving at the Port of Long Beach

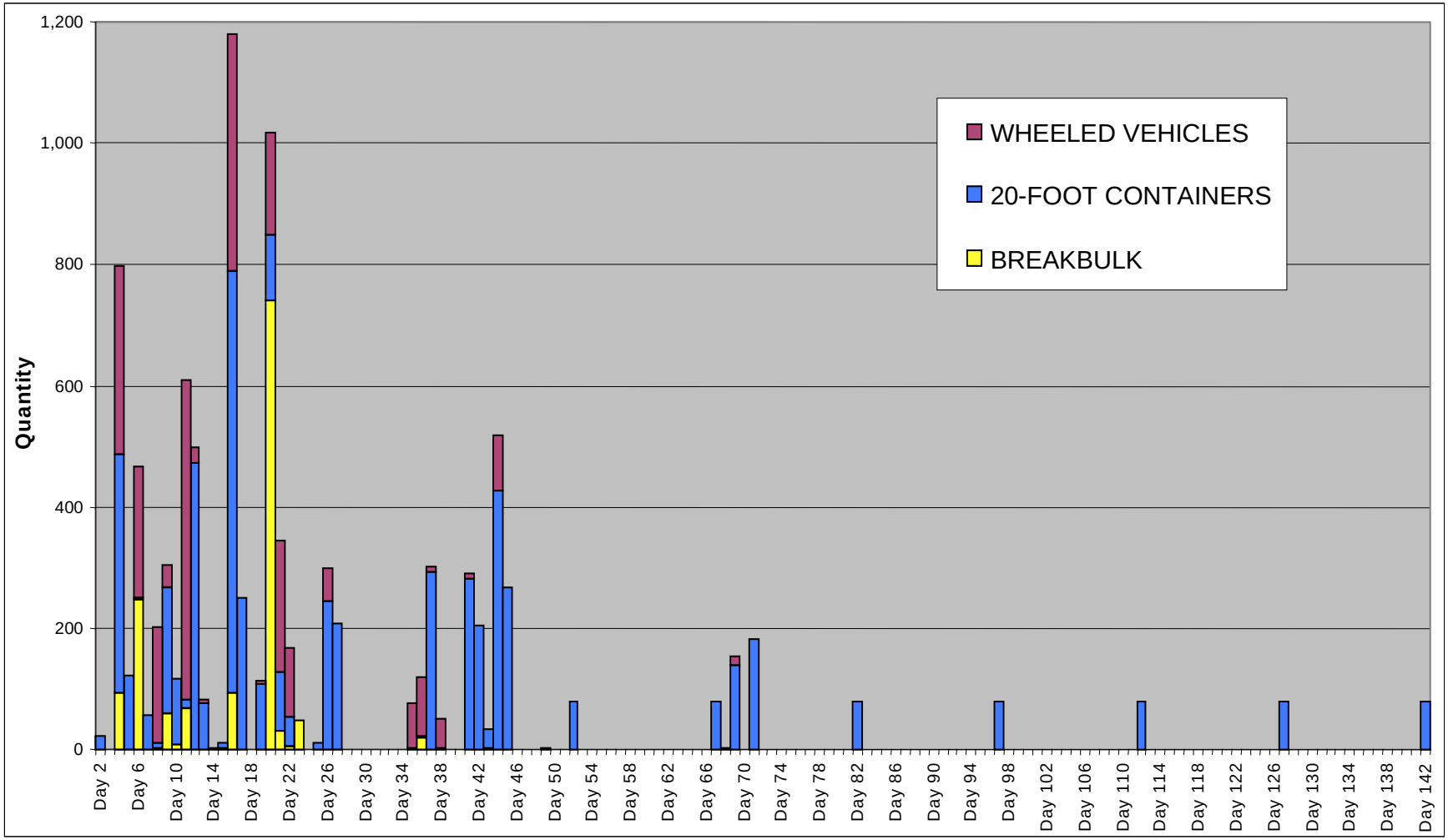


Figure A-3. Total Quantity of Items Arriving at the Port of Long Beach

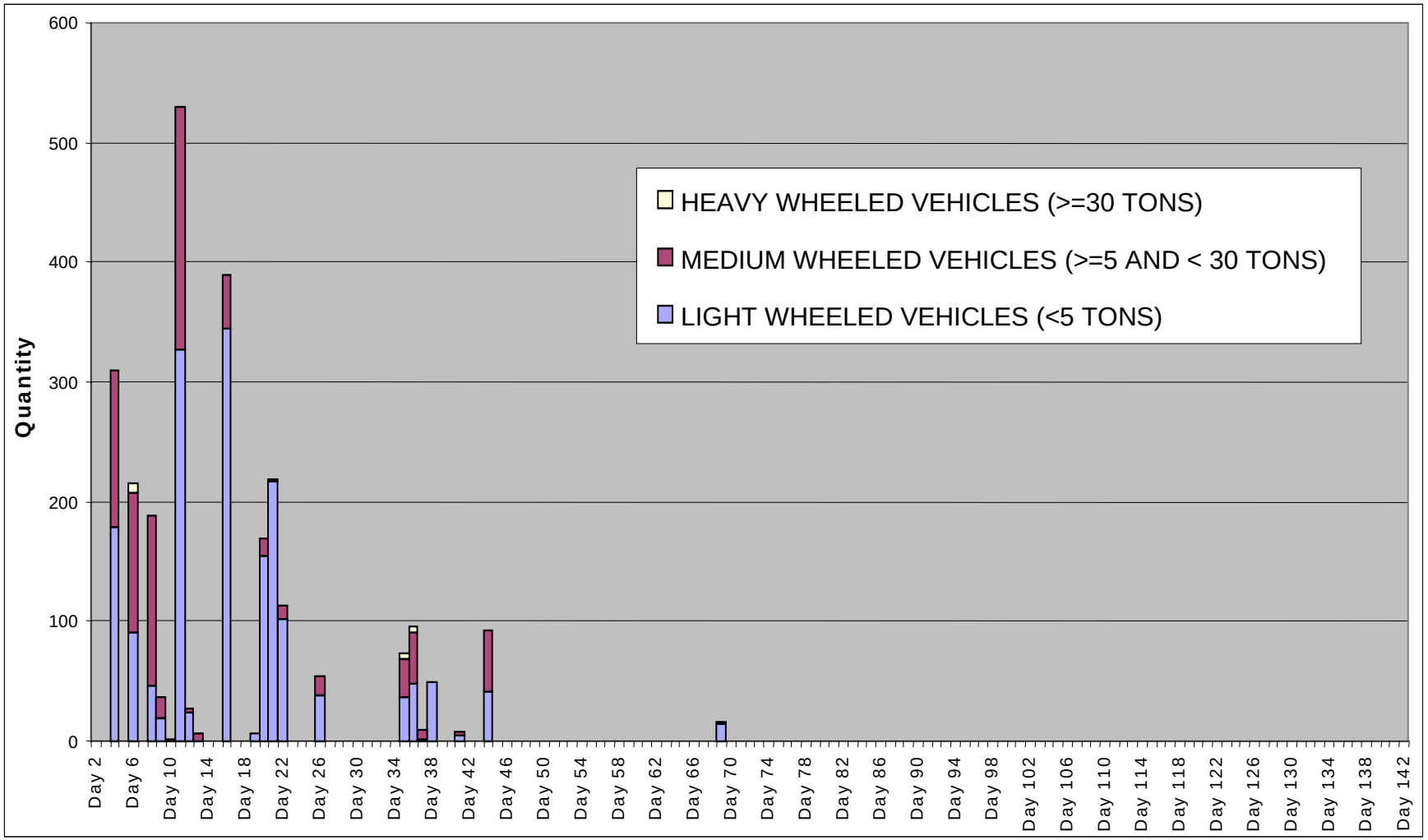


Figure A-4. Quantity of Wheeled Vehicles Arriving at the Port of Long Beach

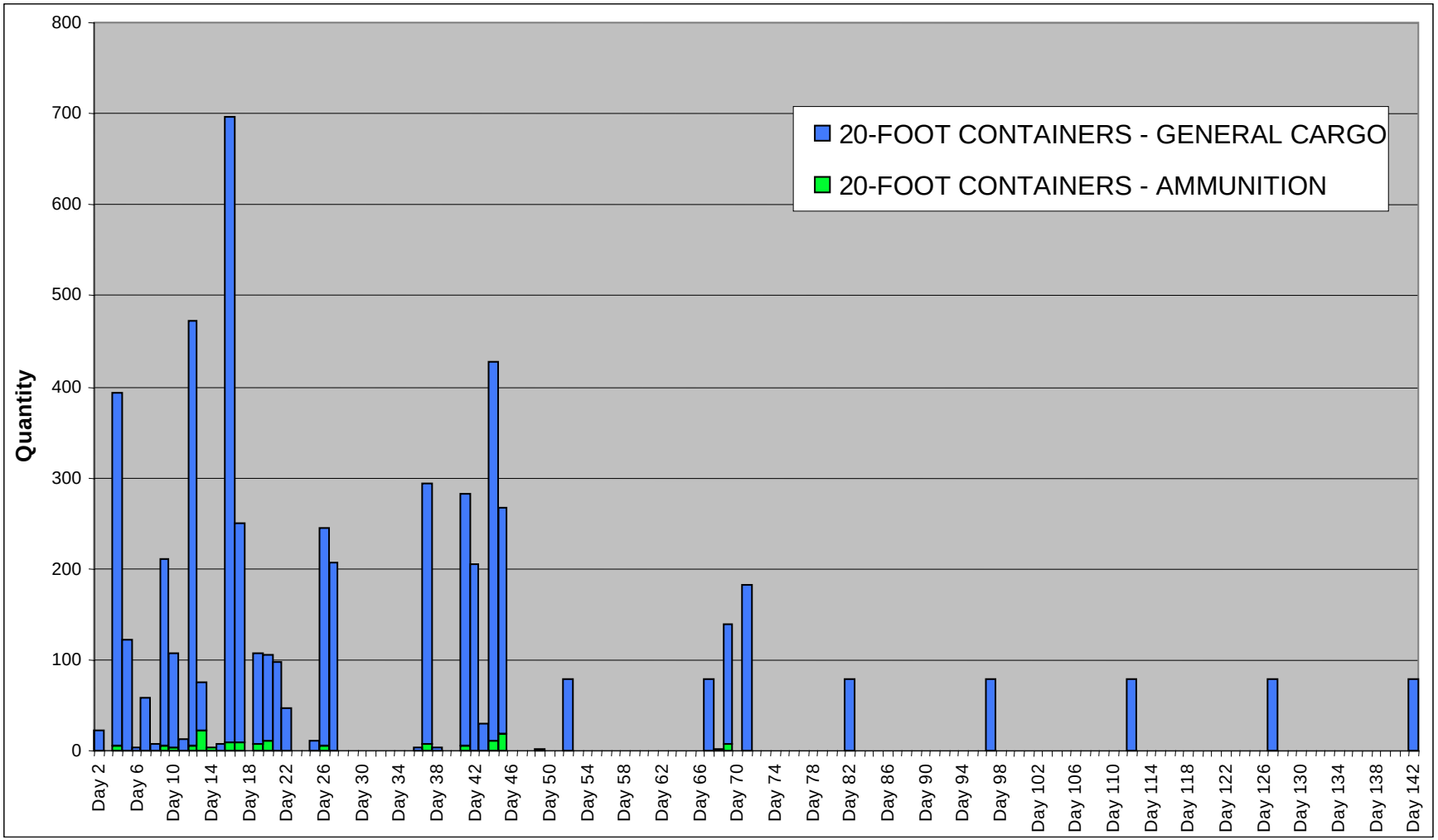


Figure A-5. Quantity of Containers Arriving at the Port of Long Beach

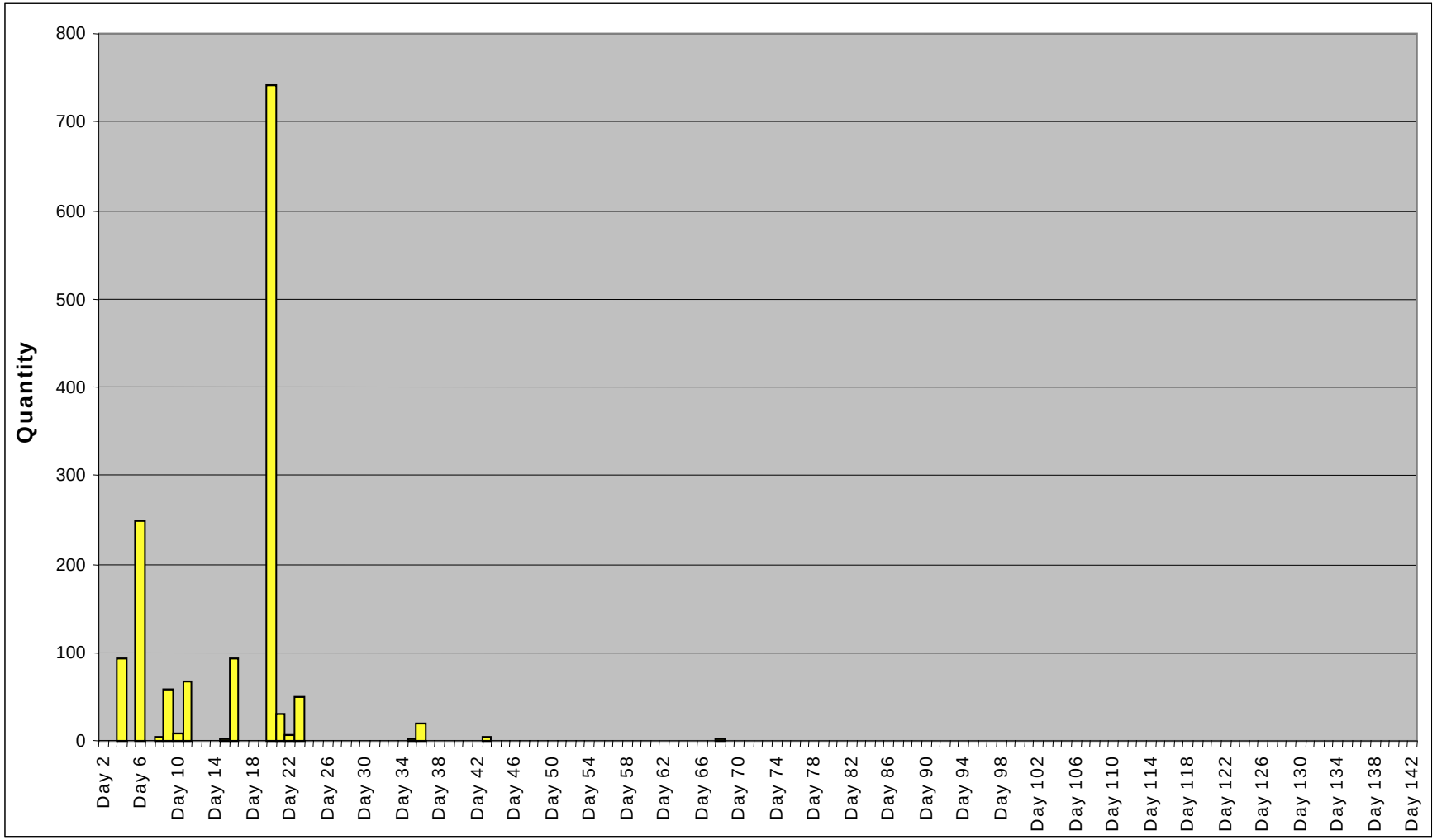


Figure A-6. Quantity of Breakbulk Items Arriving at the Port of Long Beach

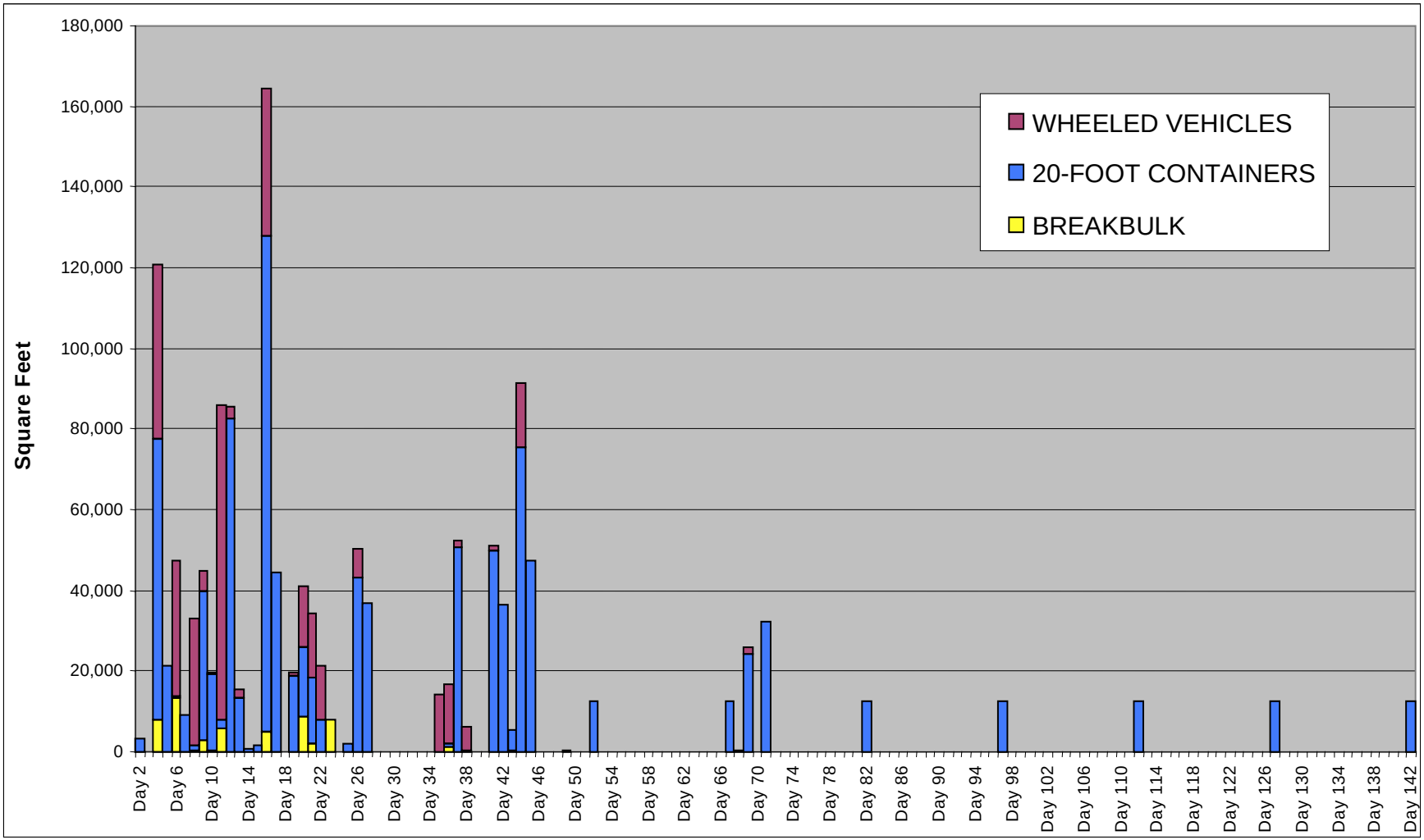


Figure A-7. Total Square Feet of Cargo Arriving at the Port of Long Beach

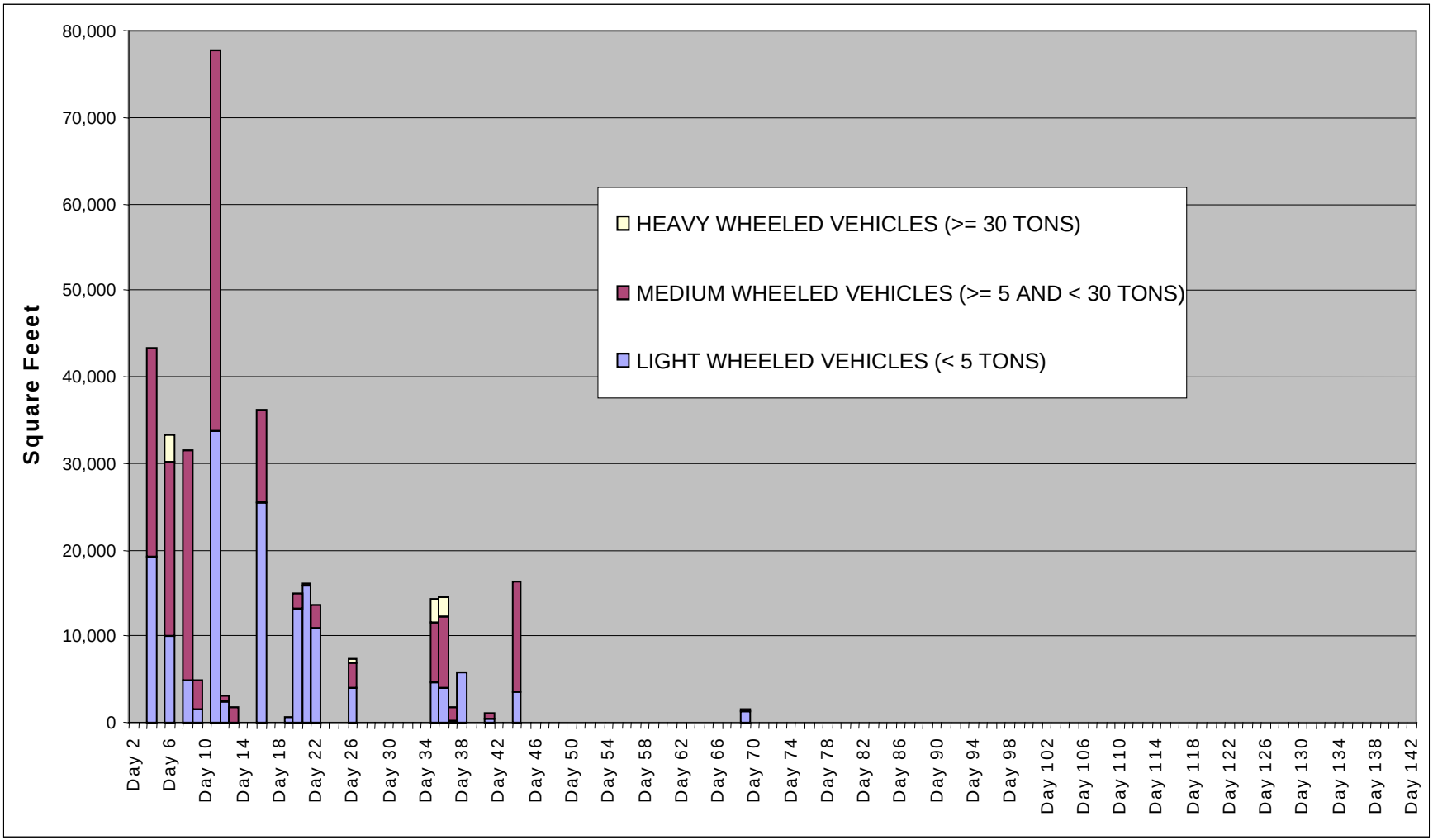


Figure A-8. Square Feet of Wheeled Vehicles Arriving at the Port of Long Beach

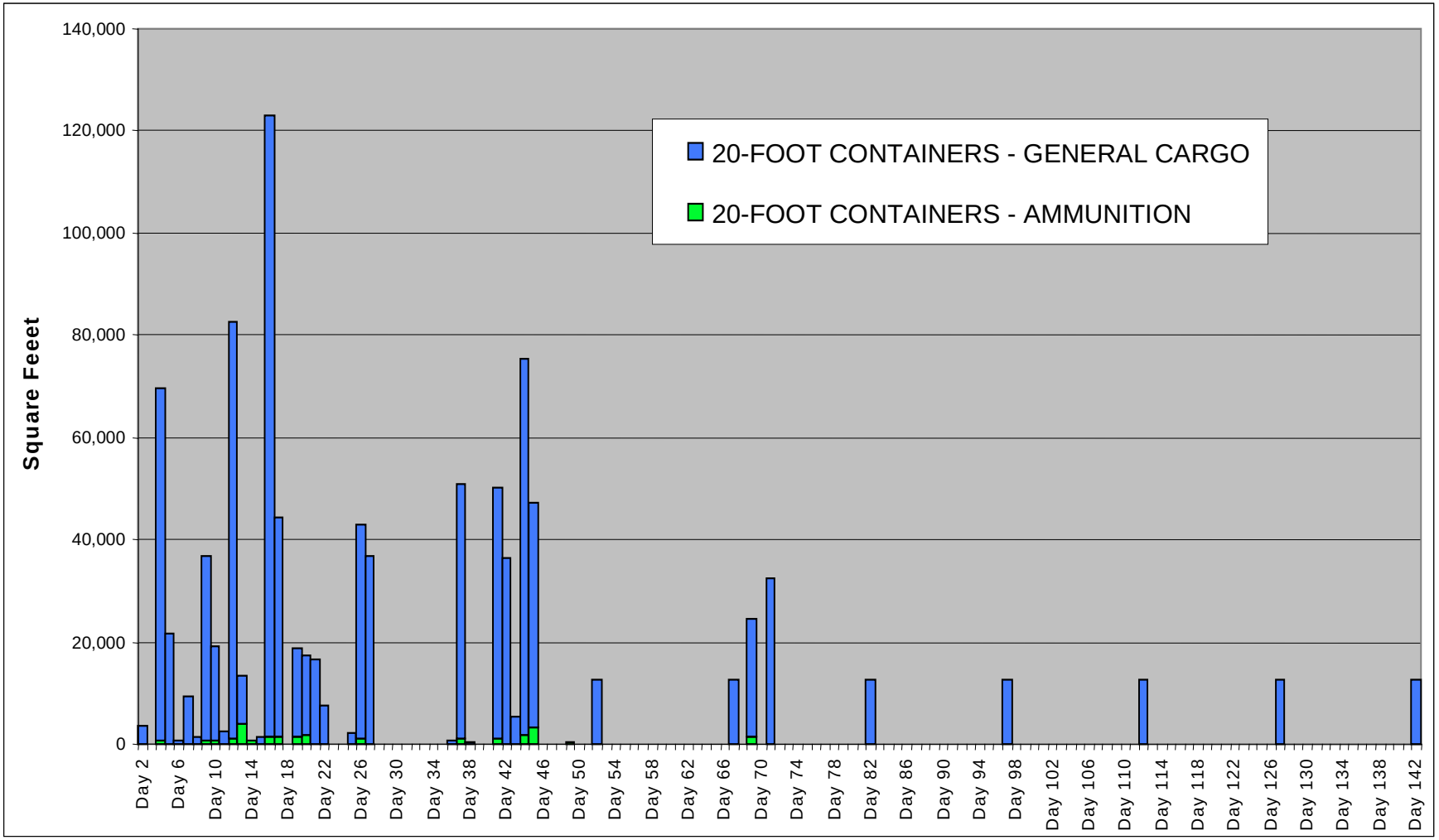


Figure A-9. Square Feet of Containers Arriving at the Port of Long Beach

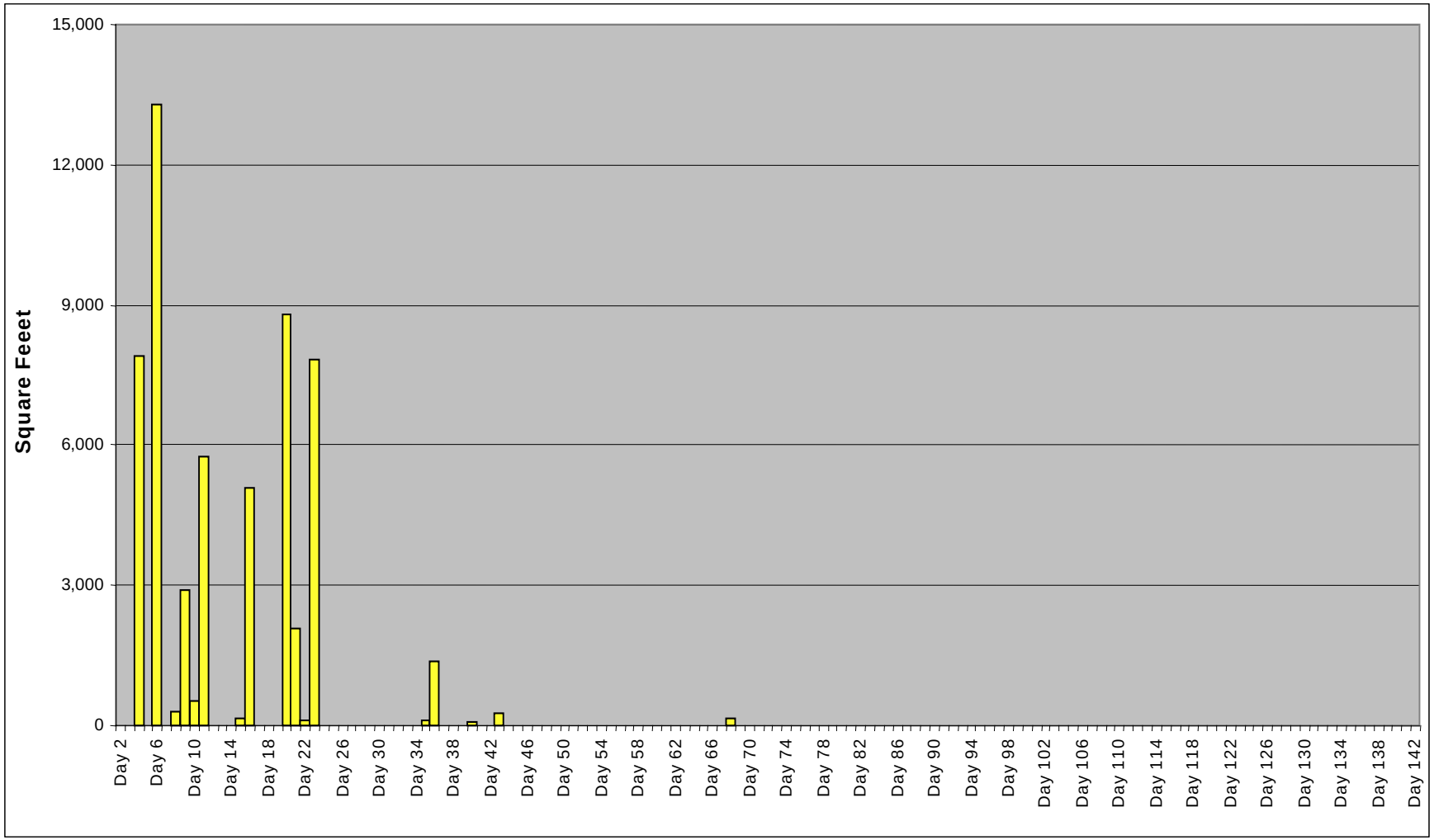


Figure A-10. Square Feet of Breakbulk Cargo Arriving at the Port of Long Beach

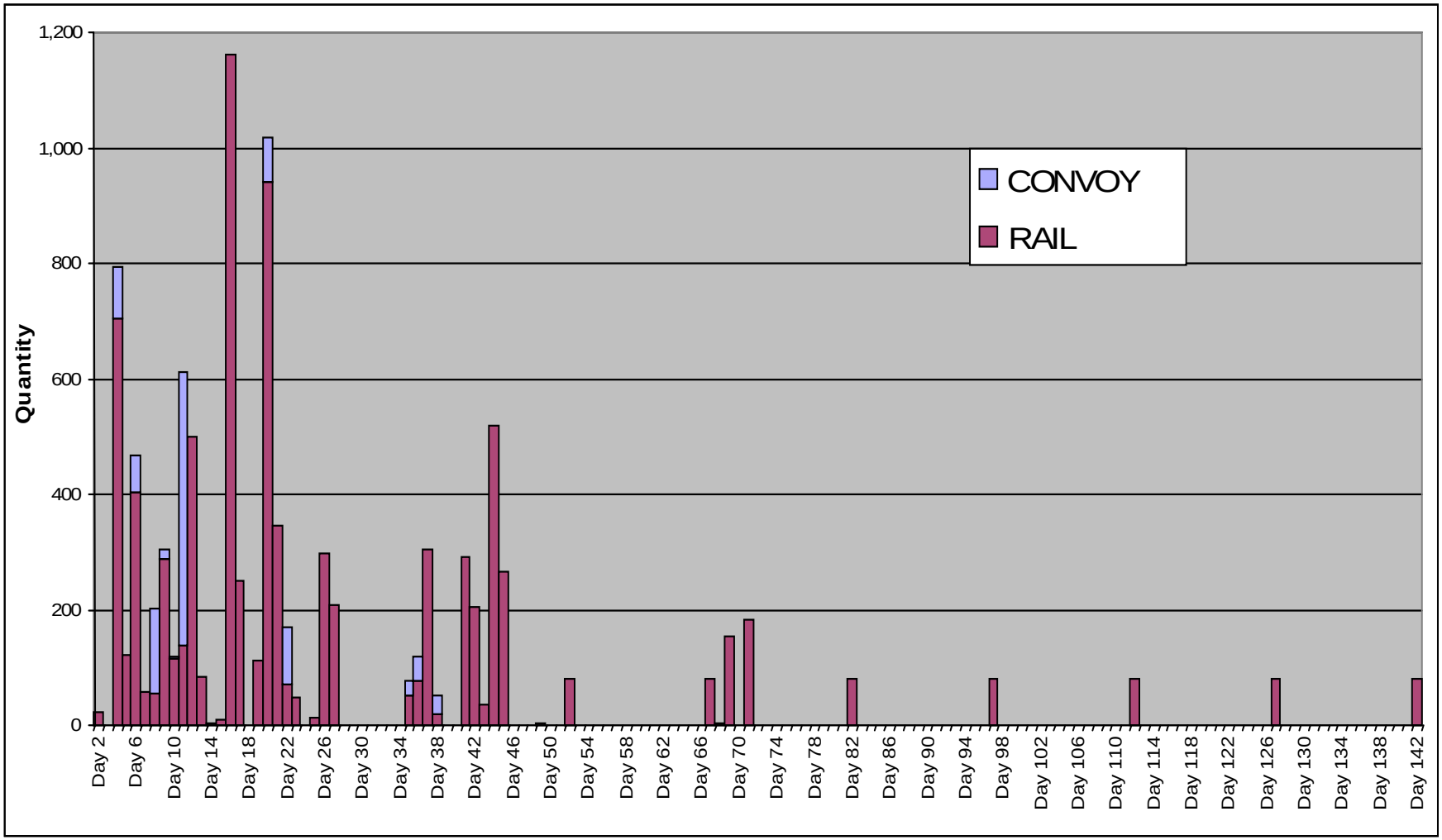


Figure A-11. Quantity of Items Arriving by Mode to the Port of Long Beach

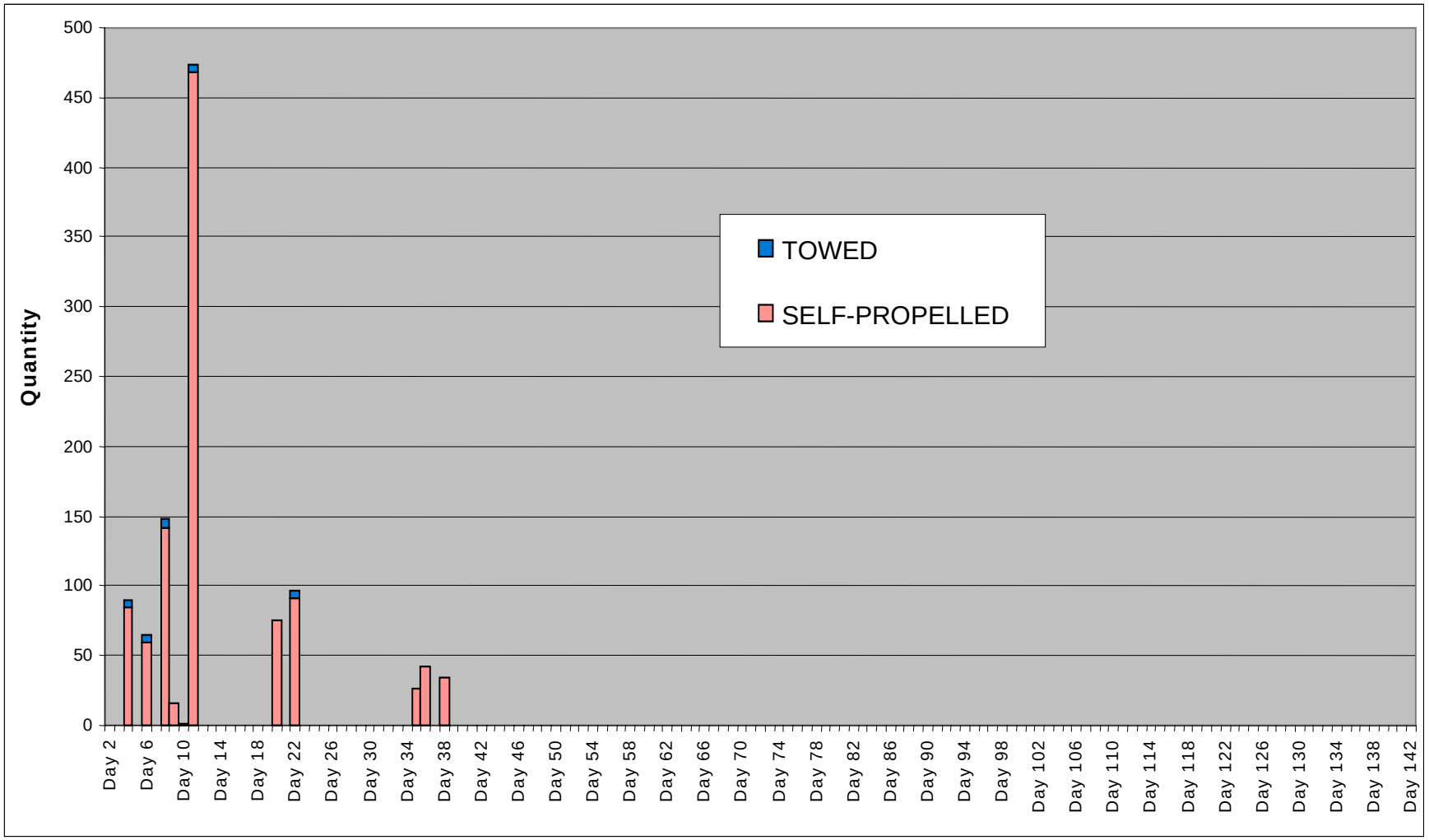


Figure A-12. Quantity of Wheeled Vehicles Convoying to the Port of Long Beach

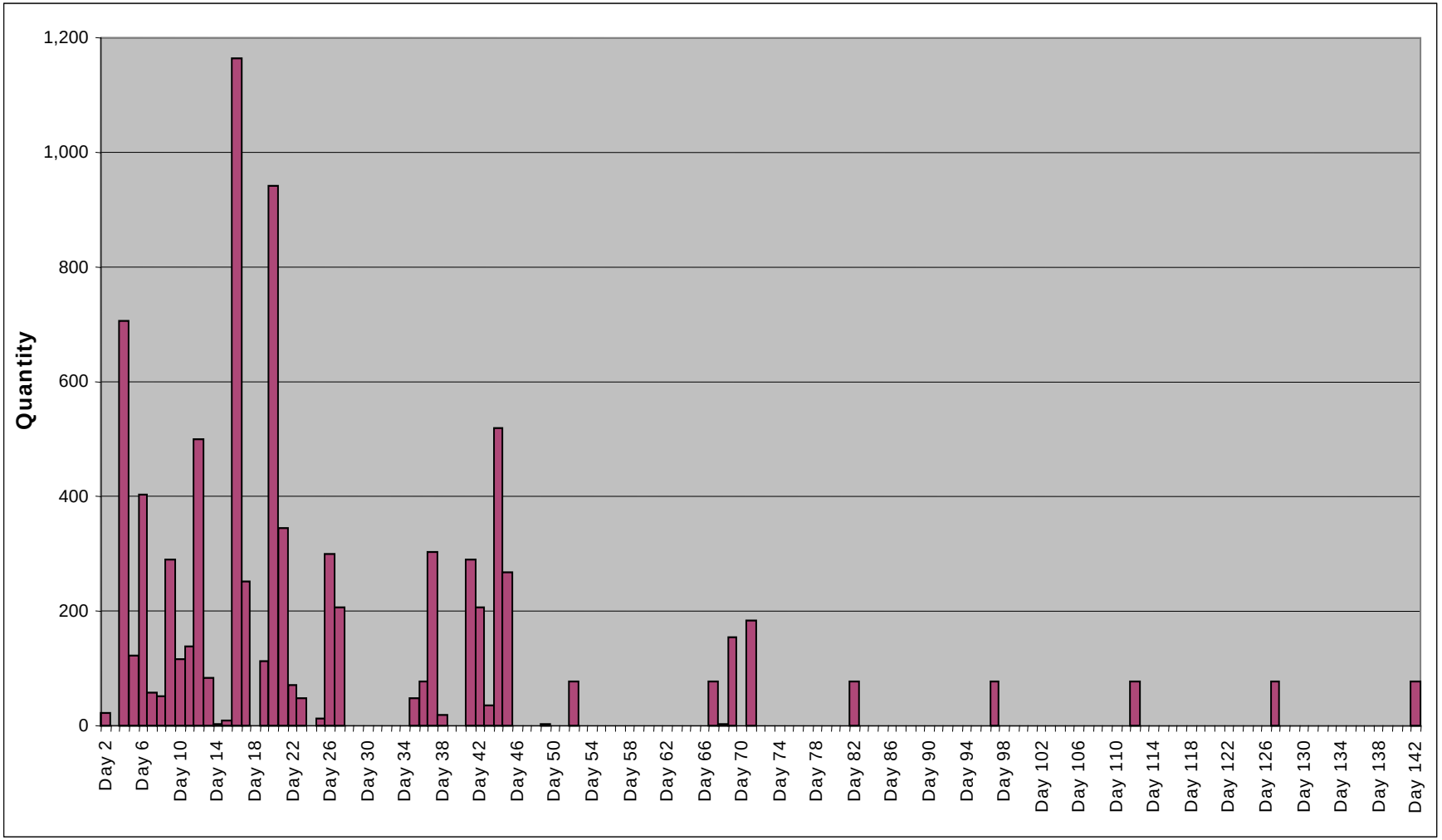


Figure A-13. Quantity of Items Arriving by Rail to the Port of Long Beach

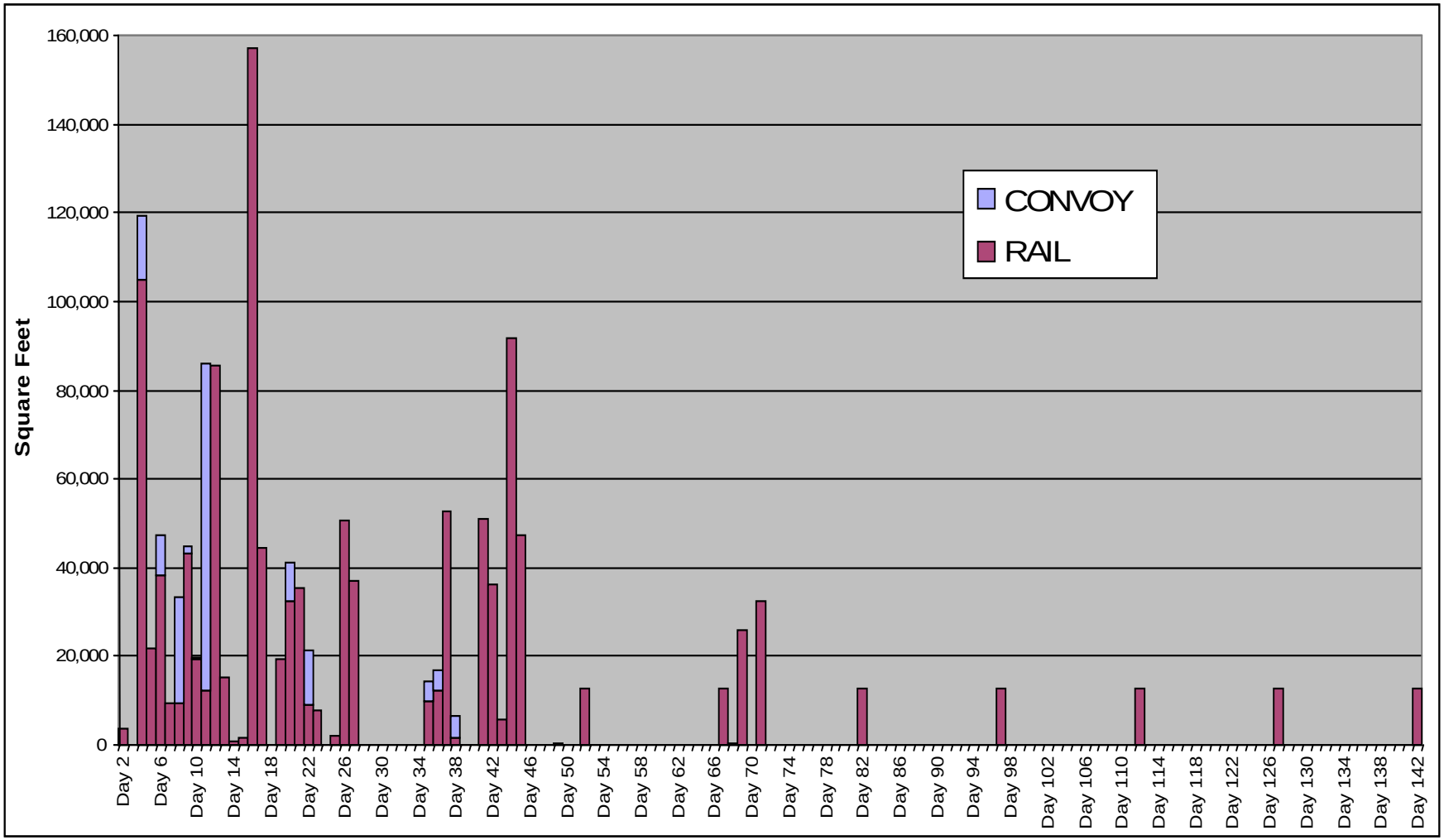


Figure A-14. Square Feet of Cargo Arriving by Mode to the Port of Long Beach

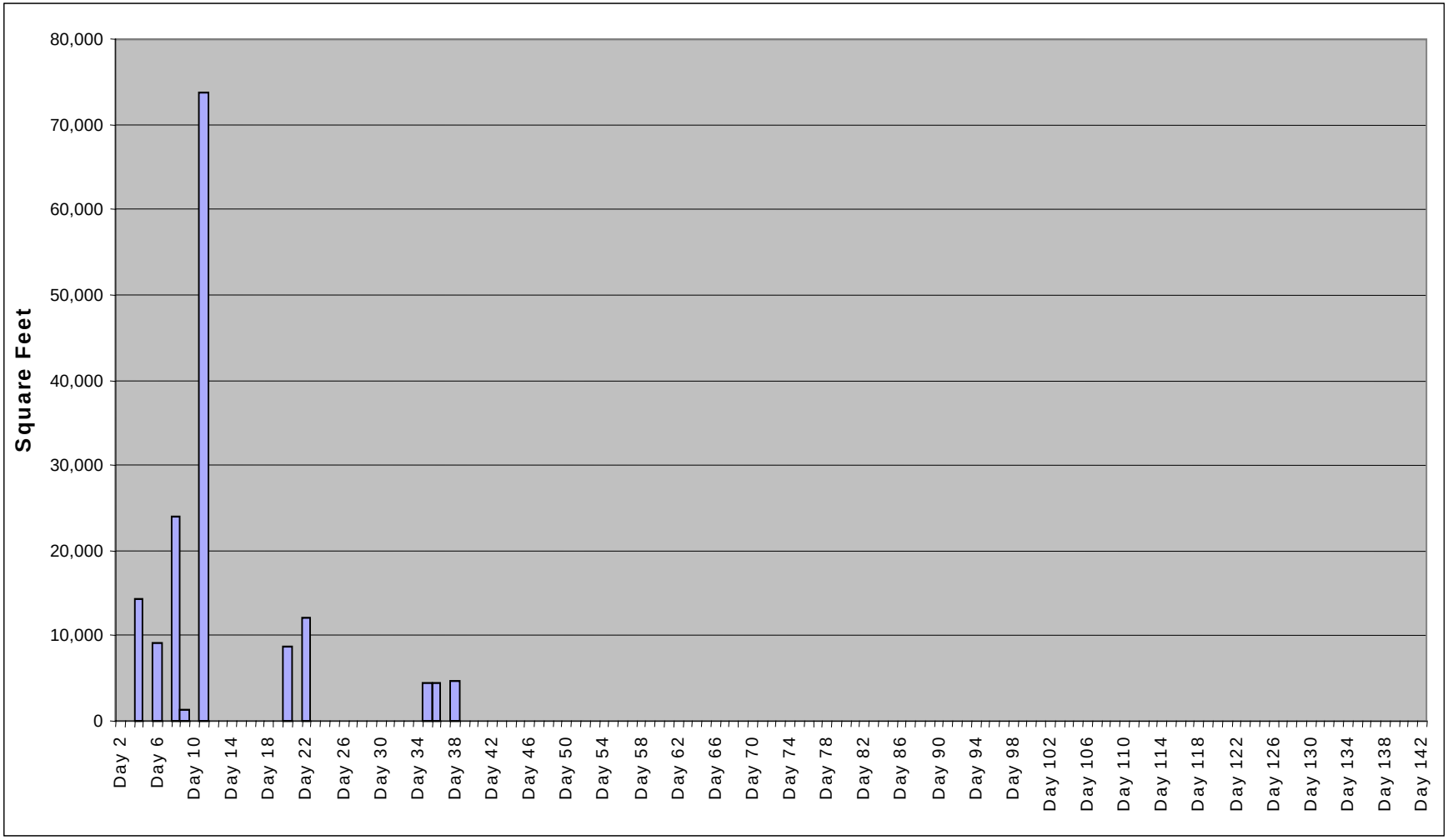


Figure A-15. Square Feet of Wheeled Vehicles Convoying to the Port of Long Beach

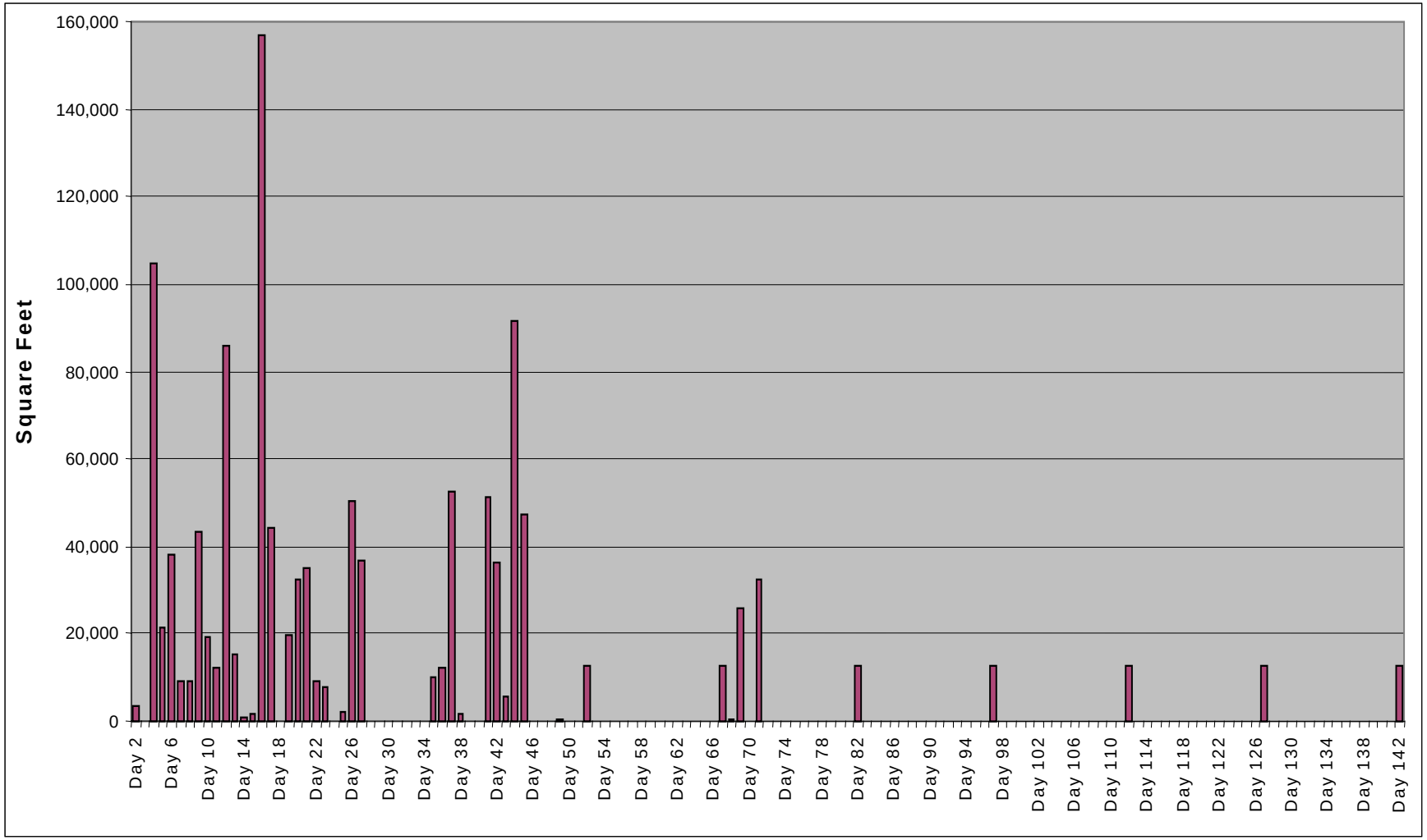


Figure A-16. Square Feet of Cargo Arriving by Rail to the Port of Long Beach

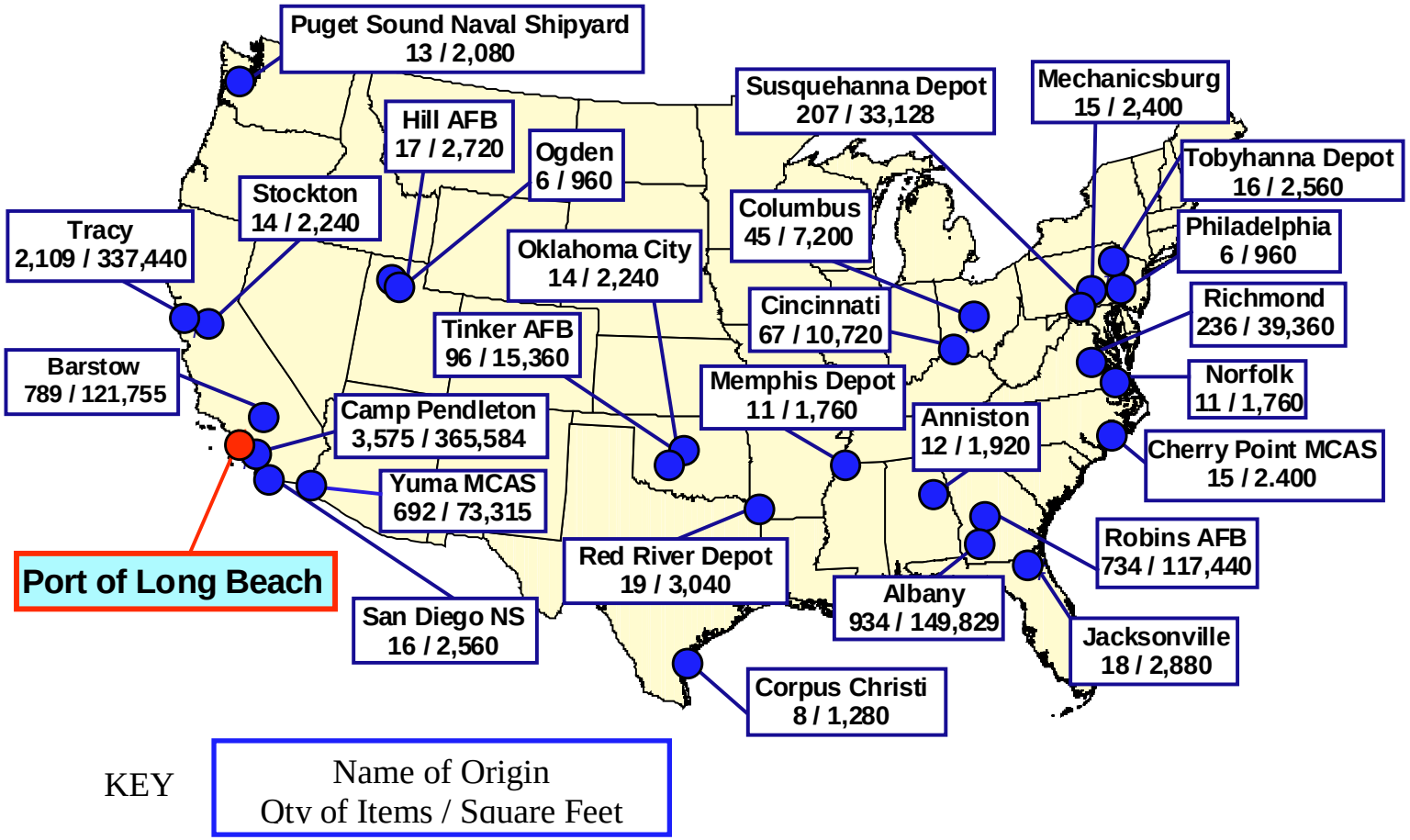
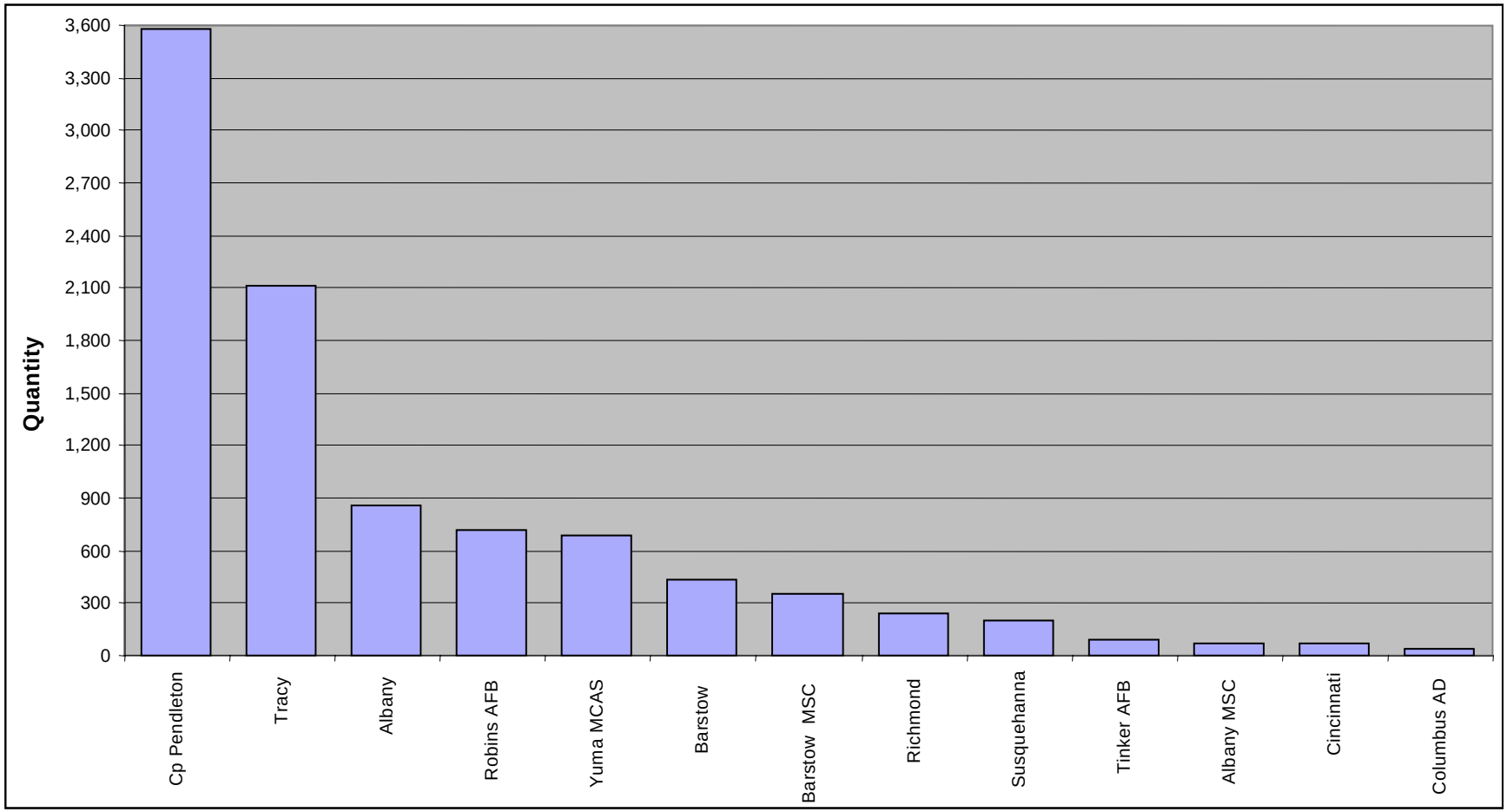


Figure A-17. Amount of Cargo Arriving at the Port of Long Beach by Origin



Includes Origins with > 20 Items

Figure A-18. Quantity of Items Arriving at the Port of Long Beach by Origin

Table A-1
Quantity of Items Arriving at the Port of Long Beach by Origin
(origins not in graph)

Quantity	Origin	State
19	Red River Depot	Texas
18	Jacksonville	Florida
17	Hill Air Force Base	Utah
16	San Diego NSC	California
16	Tobyhanna Depot	Pennsylvania
15	MCAS Cherry Point	North Carolina
15	Mechanicsburg	Illinois
14	Oklahoma City	Oklahoma
14	Stockton GSA	California
13	Puget Sound	Washington
13	Warner Robins	Georgia
12	Anniston	Alabama
11	Memphis Depot	Tennessee
11	Norfolk GSA	Virginia
8	Corpus Christi	Texas
8	Richmond Def Sup	Virginia
6	Columbus	Ohio
6	Ogden	Utah
6	Philadelphia DPSC	Pennsylvania

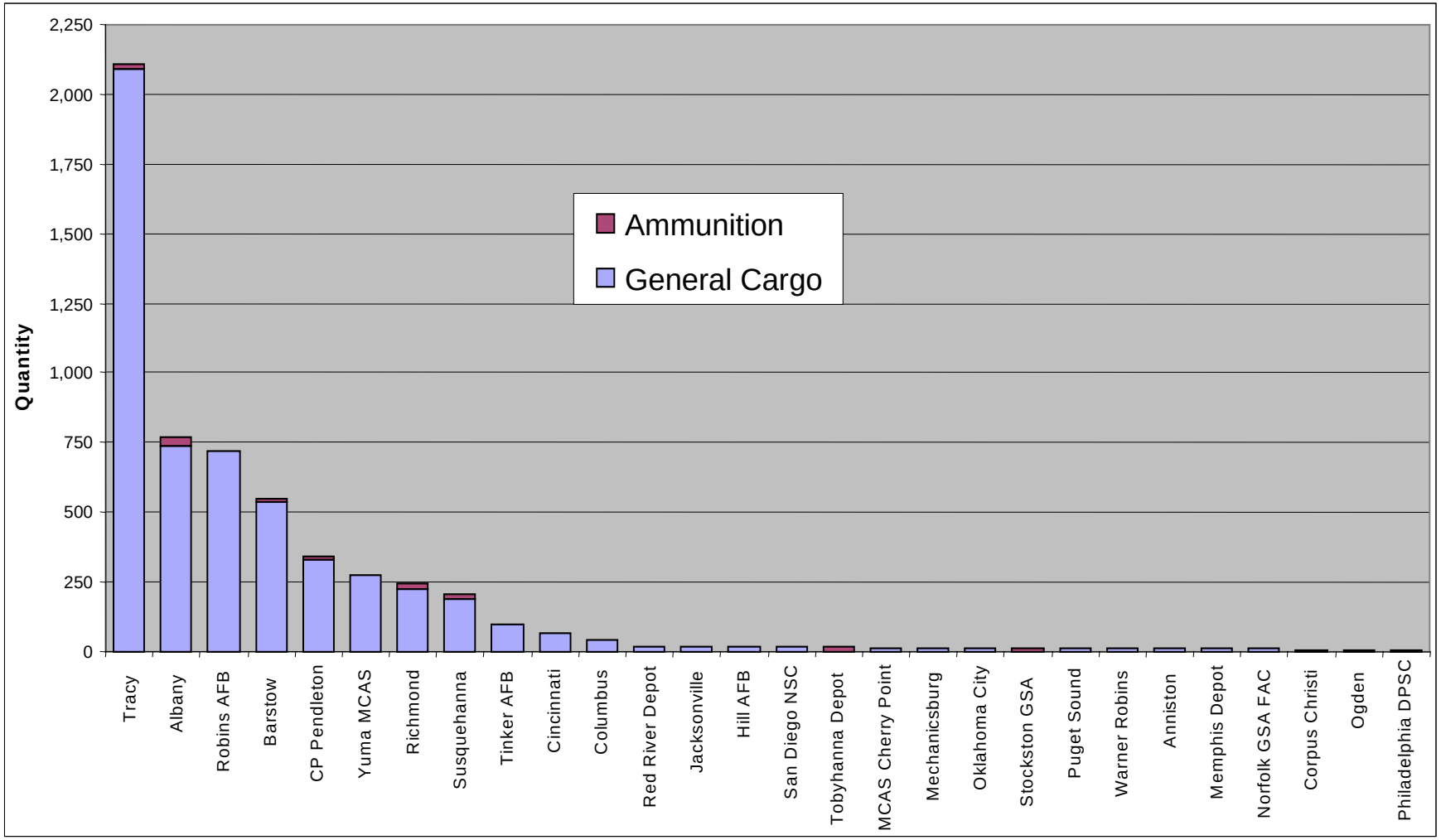


Figure A-19. Quantity of Containers Arriving at the Port of Long Beach by Origin

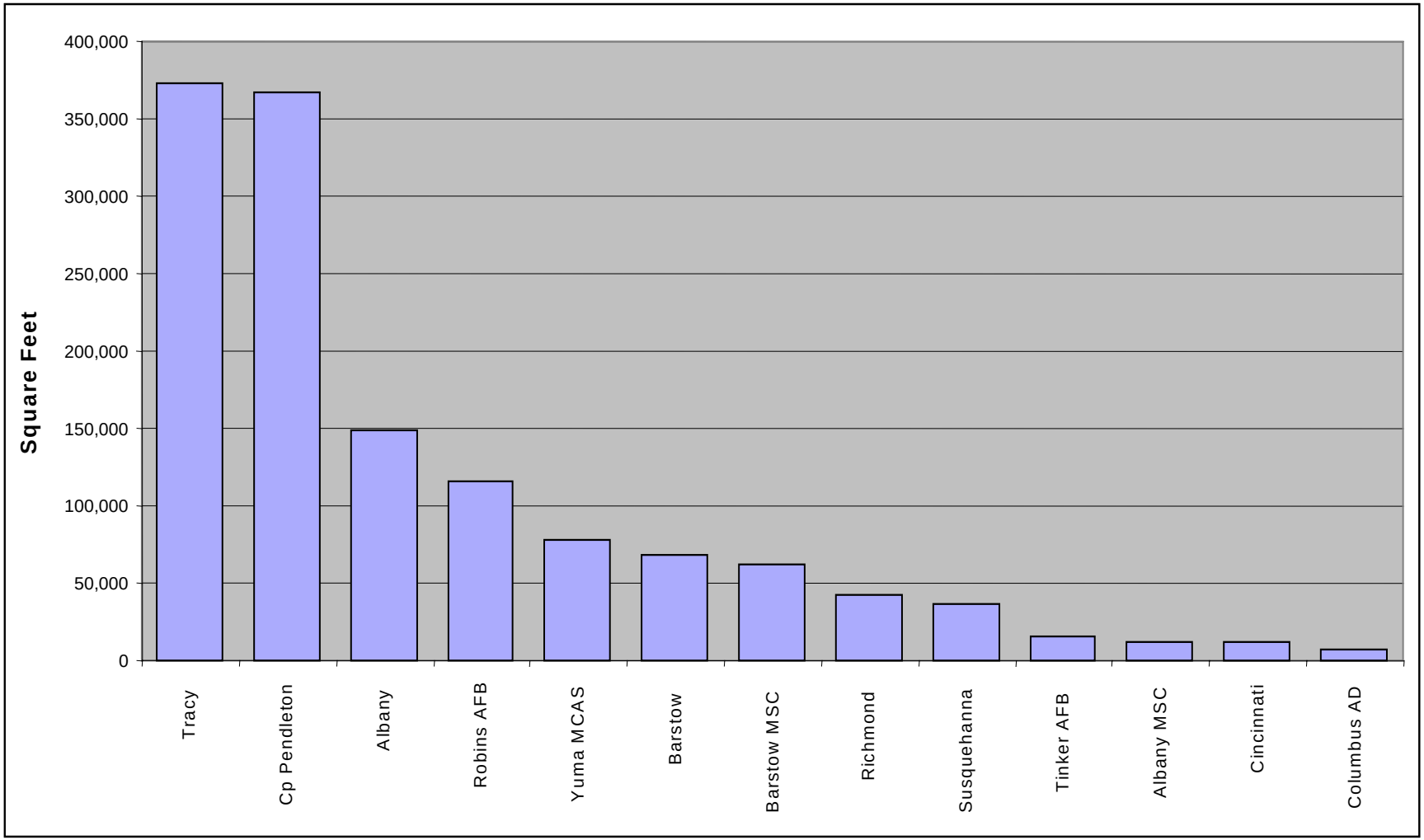


Figure A-20. Square Feet of Cargo Arriving at the Port of Long Beach by Origin

Table A-2
Square Feet of Cargo Arriving at the Port of Long Beach by Origin
(origins not in graph)

Square Feet	Origin	State
3,363	Red River Depot	Texas
3,188	Jacksonville	Florida
3,011	Hill Air Force Base	Utah
2,834	San Diego NSC	California
2,833	Tobyhanna Depot	Pennsylvania
2,656	MCAS Cherry Point	North Carolina
2,656	Mechanicsburg	Illinois
2,479	Oklahoma City	Oklahoma
2,479	Stockton GSA	California
2,302	Puget Sound	Washington
2,302	Warner Robins	Georgia
2,125	Anniston	Alabama
1,948	Memphis Depot	Tennessee
1,948	Norfolk GSA	Virginia
1,417	Corpus Christi	Texas
1,417	Richmond Def Sup	Virginia
1,063	Ogden	Utah
1,063	Columbus	Ohio
1,063	Philadelphia DPSC	Pennsylvania

APPENDIX B

PORT OF OAKLAND

The graphs below represent the cargo scheduled to arrive at the Port of Oakland as outlined in the TPFDD. Cargo is scheduled to arrive at the port starting on day 2 and continuing through day 147.

The Port of Oakland is scheduled to receive unit equipment and sustainment cargo from approximately 60 origins. A map of the origin locations is provided in Figure B-1. The quantity of railcars arriving at the Port of Oakland is provided in Figure B-2. Figures B-3 through B-9 show the quantity of items by category arriving at the port. Figures B-10 through B-16 show the same information in terms of square footage.

Figure B-6 provides the quantity of floating craft scheduled to arrive at the Port of Oakland. The large spike of 69 floating craft on C+9 is Navy floating craft arriving from Coronado, California. There are 48 causeway sections, 12 landing craft, mechanized (LCM6), and 9 warping tugs. Since Coronado is located on the West Coast, some of these floating craft may self deploy to the Port of Oakland.

Figures B-17 through B-20 provide a breakdown of the quantity of items arriving at the port according to the mode of transportation (convoy, rail, and self-deployed aircraft). Similarly, Figures B-21 through B-24 reflect the same information presented in terms of square footage.

Figure B-25 shows the amount of cargo in terms of quantity and square feet for each origin scheduled in the TPFDD. The bar graph in Figure B-26 provides the total quantity of items for each origin and includes origins with a total of 200 or more items. The remaining origins not included in the graph are listed in Table B-1. Port Angeles has a requirement for one 110-foot WPB Patrol Cutter as shown in Figure B-25 and will most likely self-deploy to the port.

The quantity of 20-foot containers arriving at the port from each origin is provided in Figure B-27. The largest container requirement will be arriving at the port from Tracy, California. The graph includes those origins with more than 10 containers. The remaining origins with 10 containers or less are listed in Table B-2. Figure B-28 provides the number of 40-foot containers by origin with the largest number of 40-foot containers arriving from Sierra Depot, California.

Figure B-29 shows the square feet of cargo by origin. The graph reflects origins with a total of 30,000 square feet or more. The remaining origins not included in the graph are provided in Table B-3.

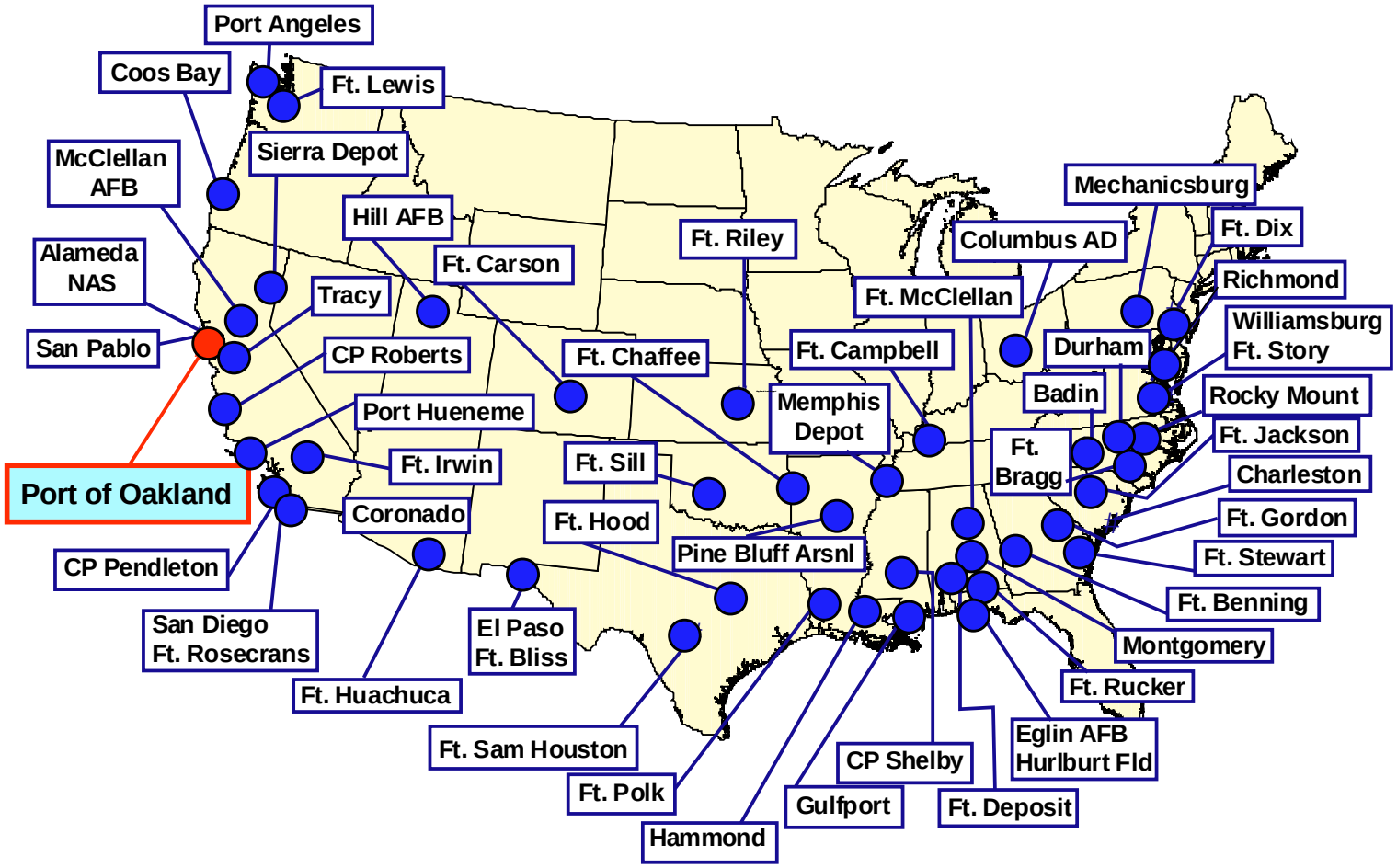


Figure B-1. Cargo Arrives at the Port of Long Beach from Many Origins

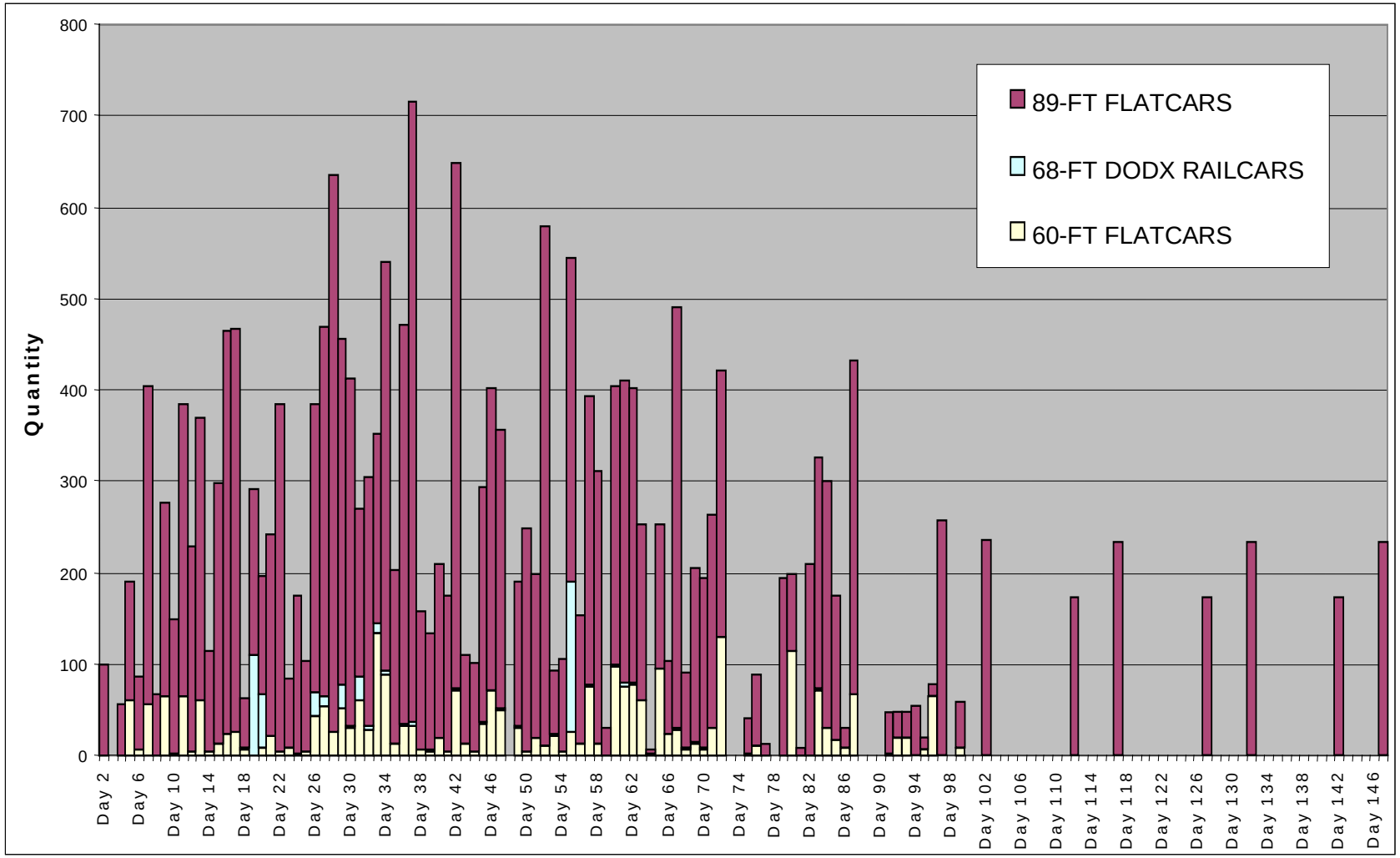


Figure B-2. Quantity of Railcars Arriving at the Port of Oakland

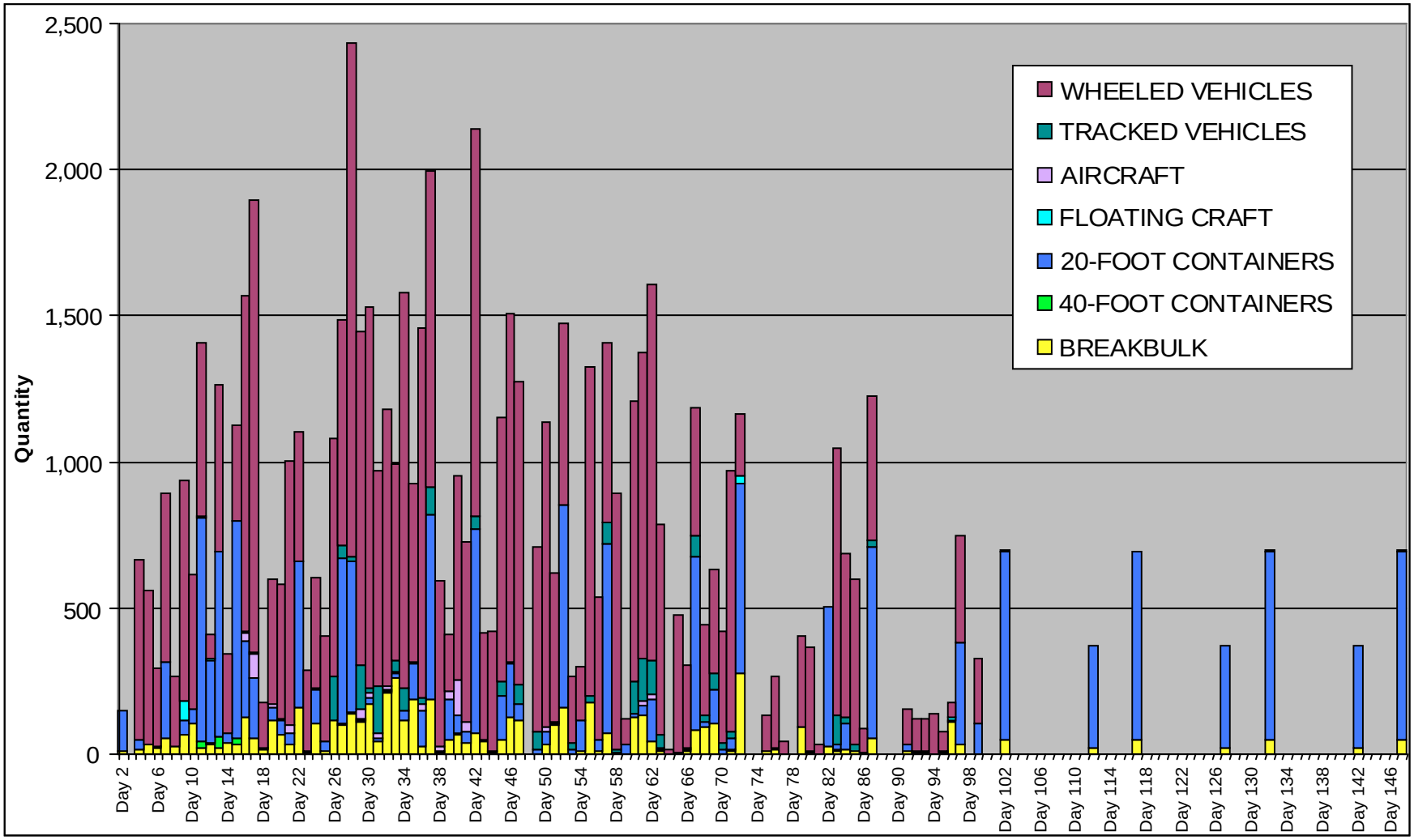


Figure B-3. Total Quantity of Items Arriving at the Port of Oakland

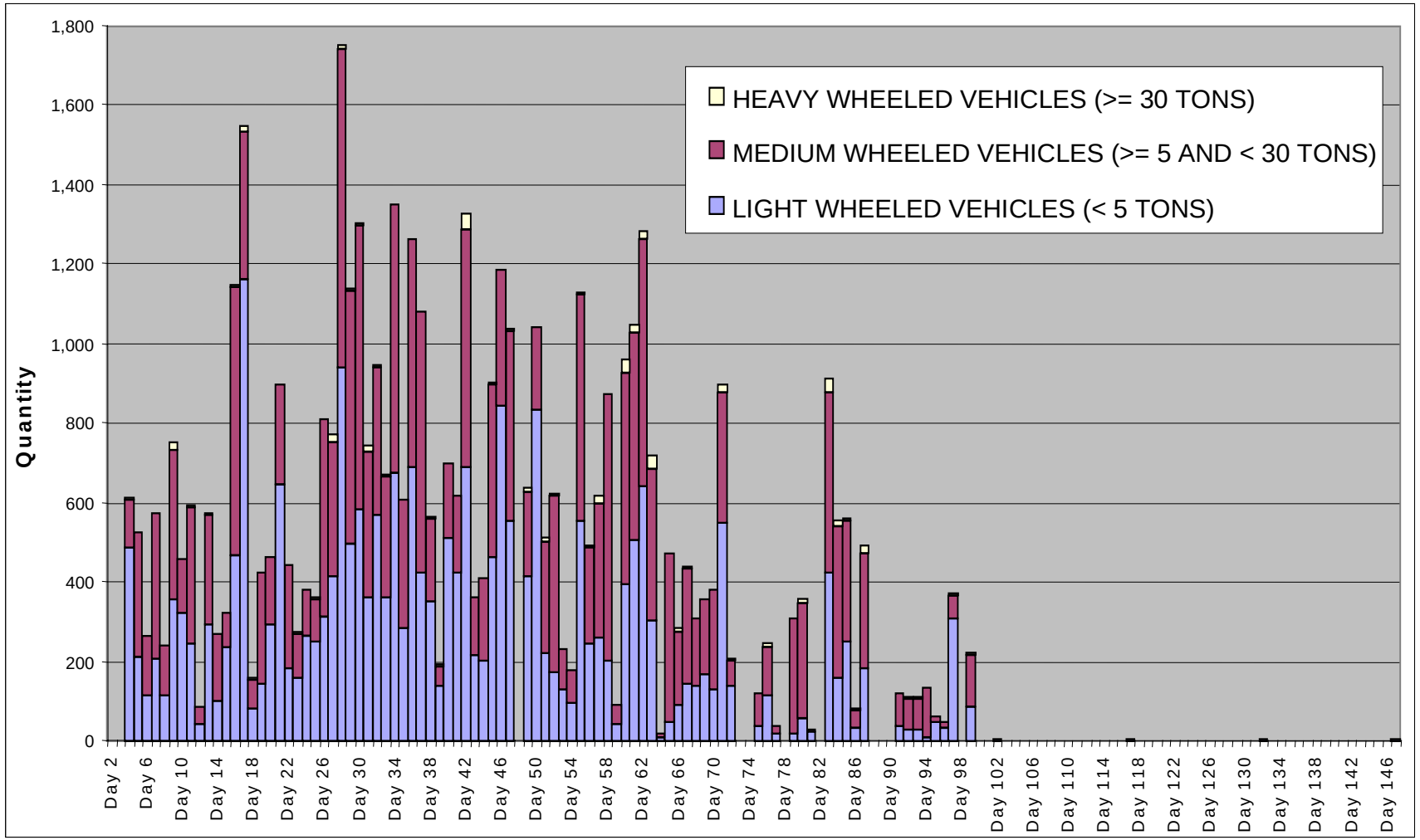


Figure B-4. Quantity of Wheeled Vehicles Arriving at the Port of Oakland

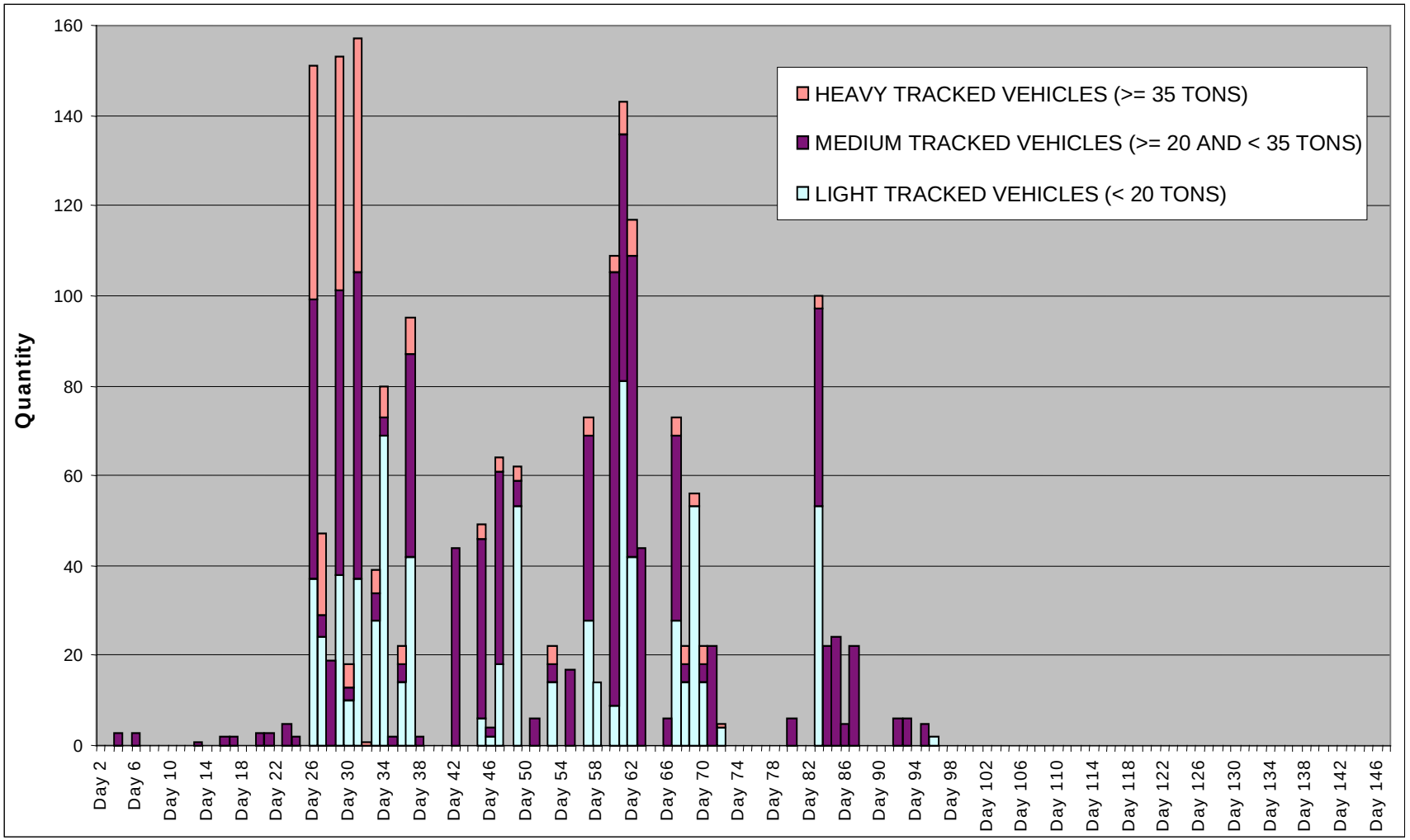


Figure B-5. Quantity of Tracked Vehicles Arriving at the Port of Oakland

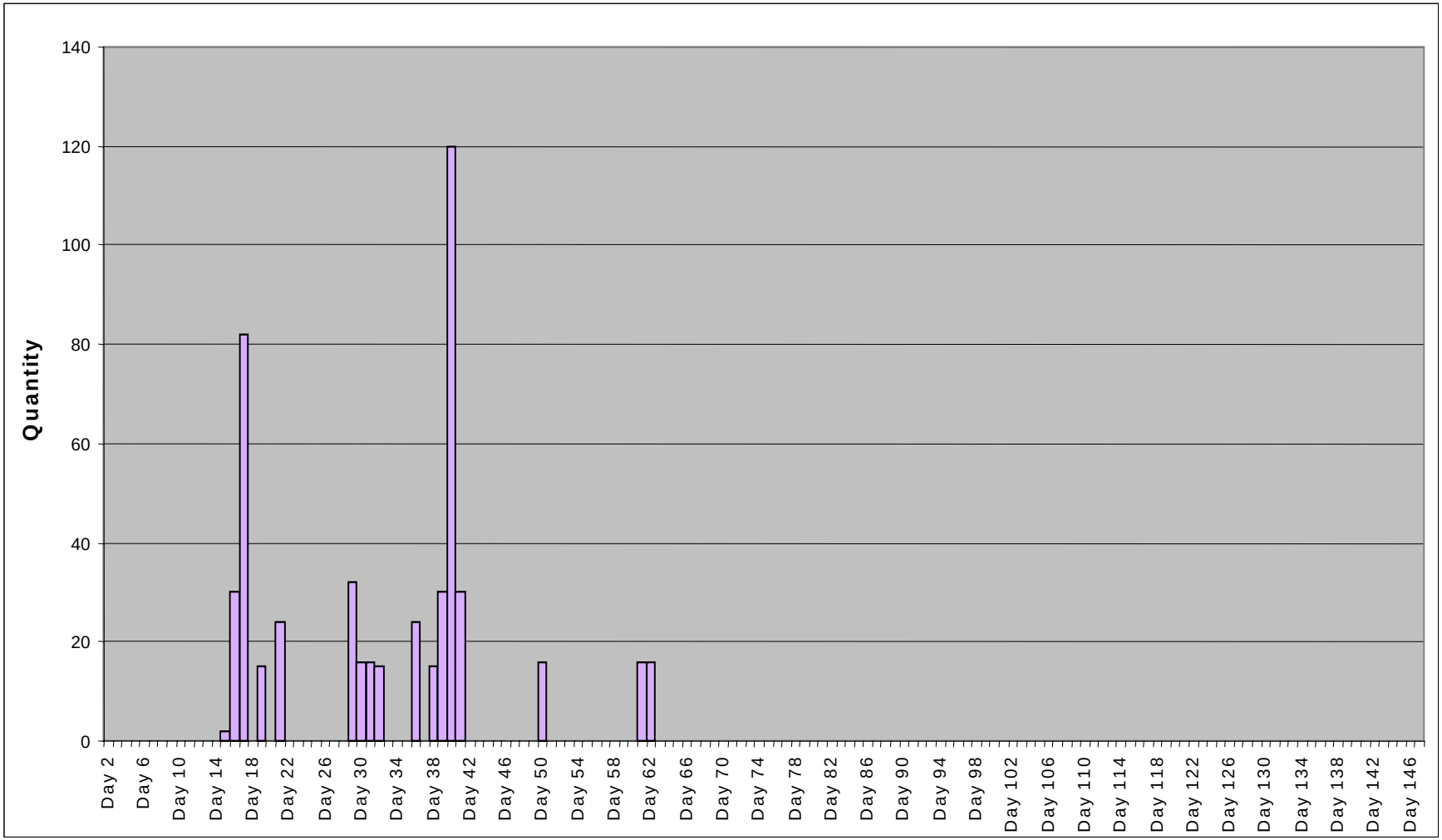


Figure B-6. Quantity of Aircraft Arriving at the Port of Oakland

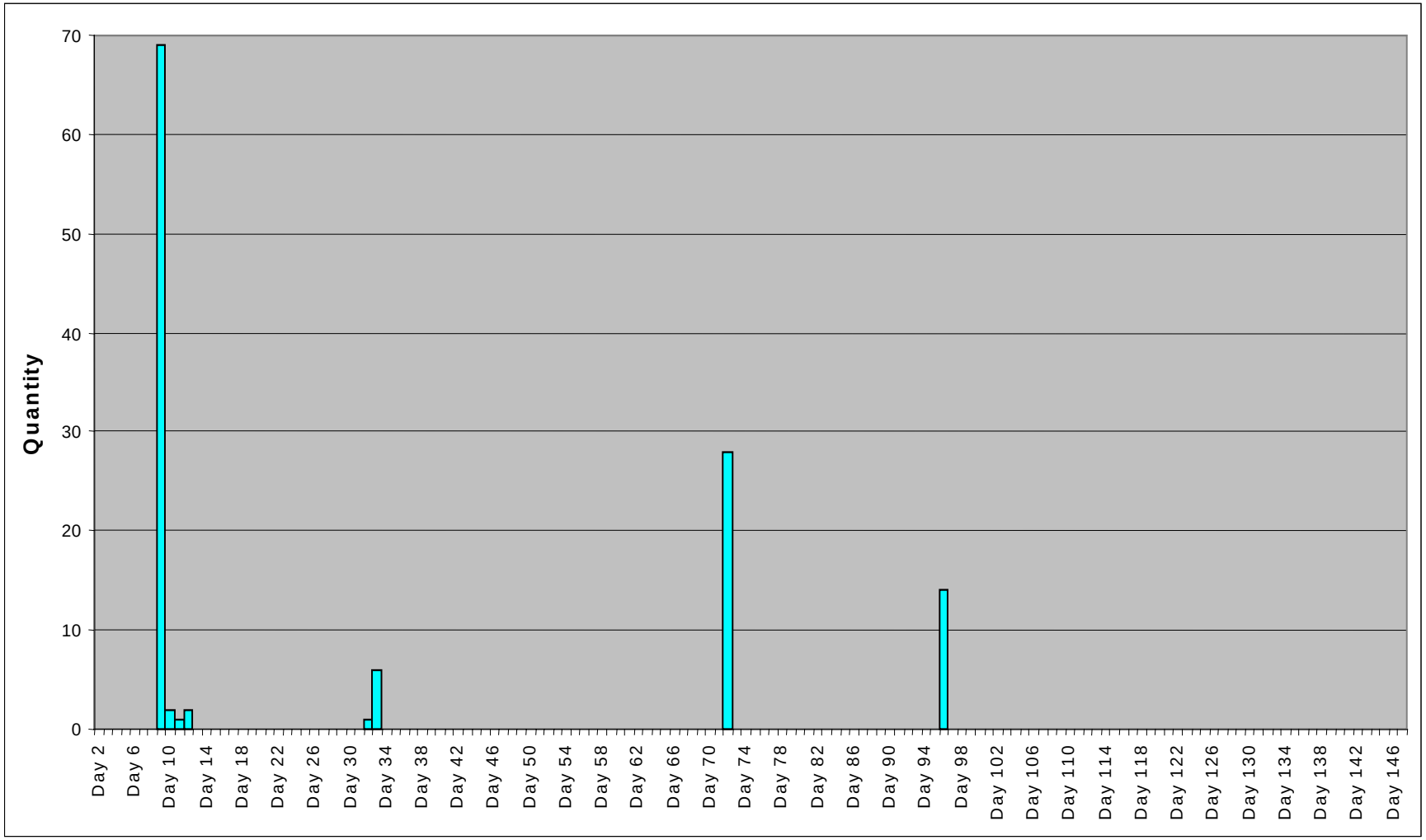


Figure B-7. Quantity of Floating Craft Arriving at the Port of Oakland

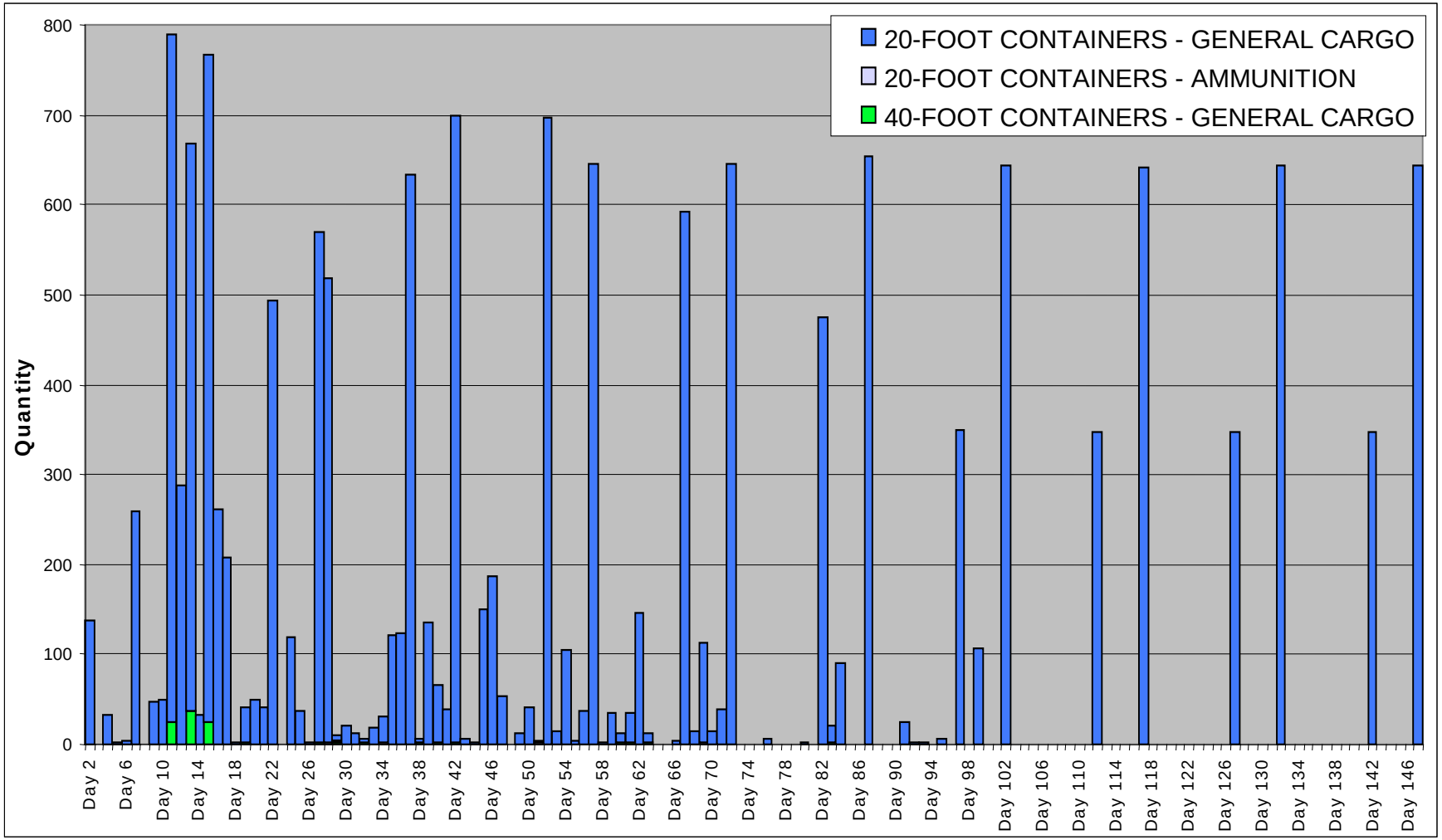


Figure B-8. Quantity of Containers Arriving at the Port of Oakland

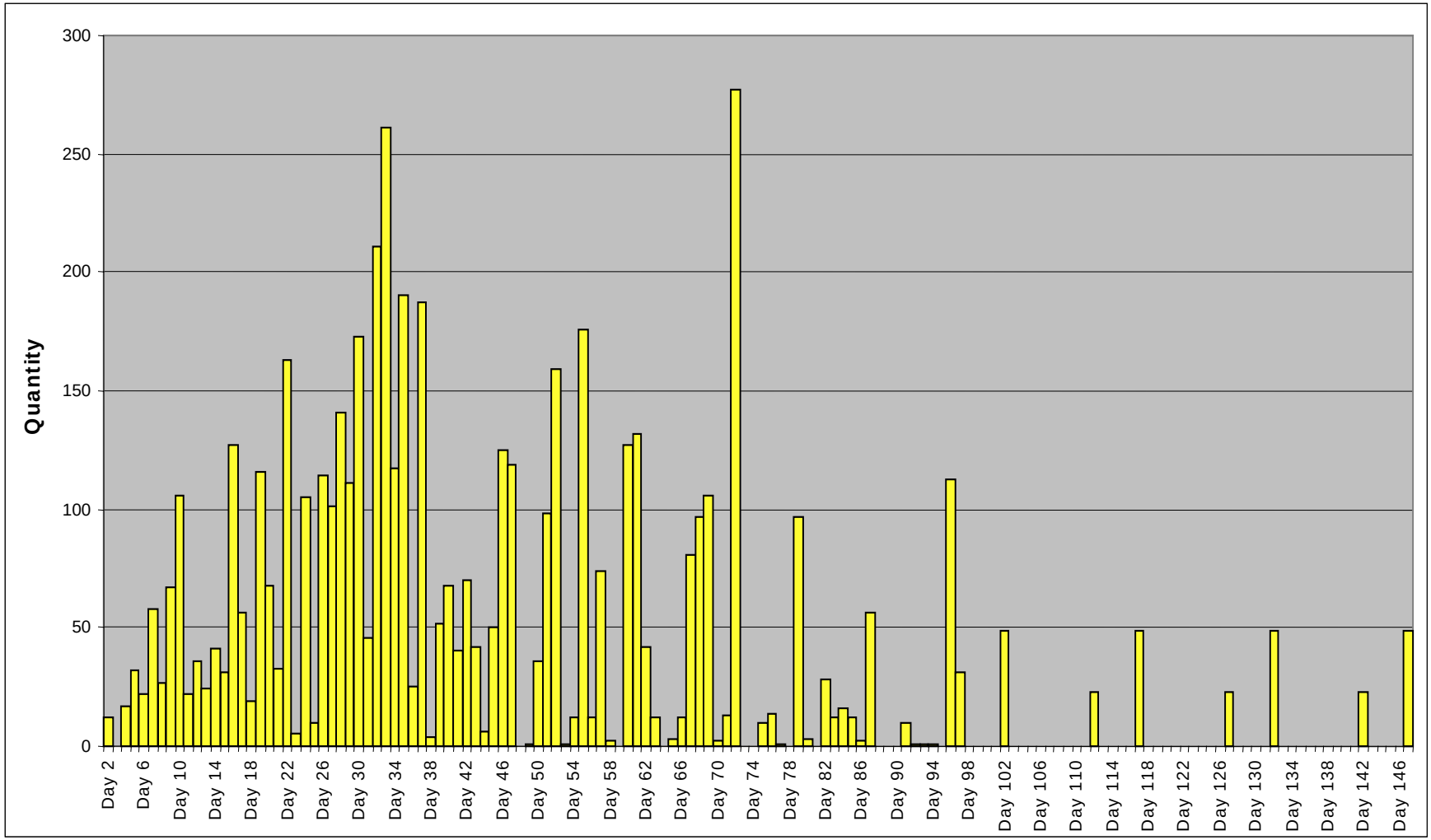


Figure B-9. Quantity of Breakbulk Items Arriving at the Port of Oakland

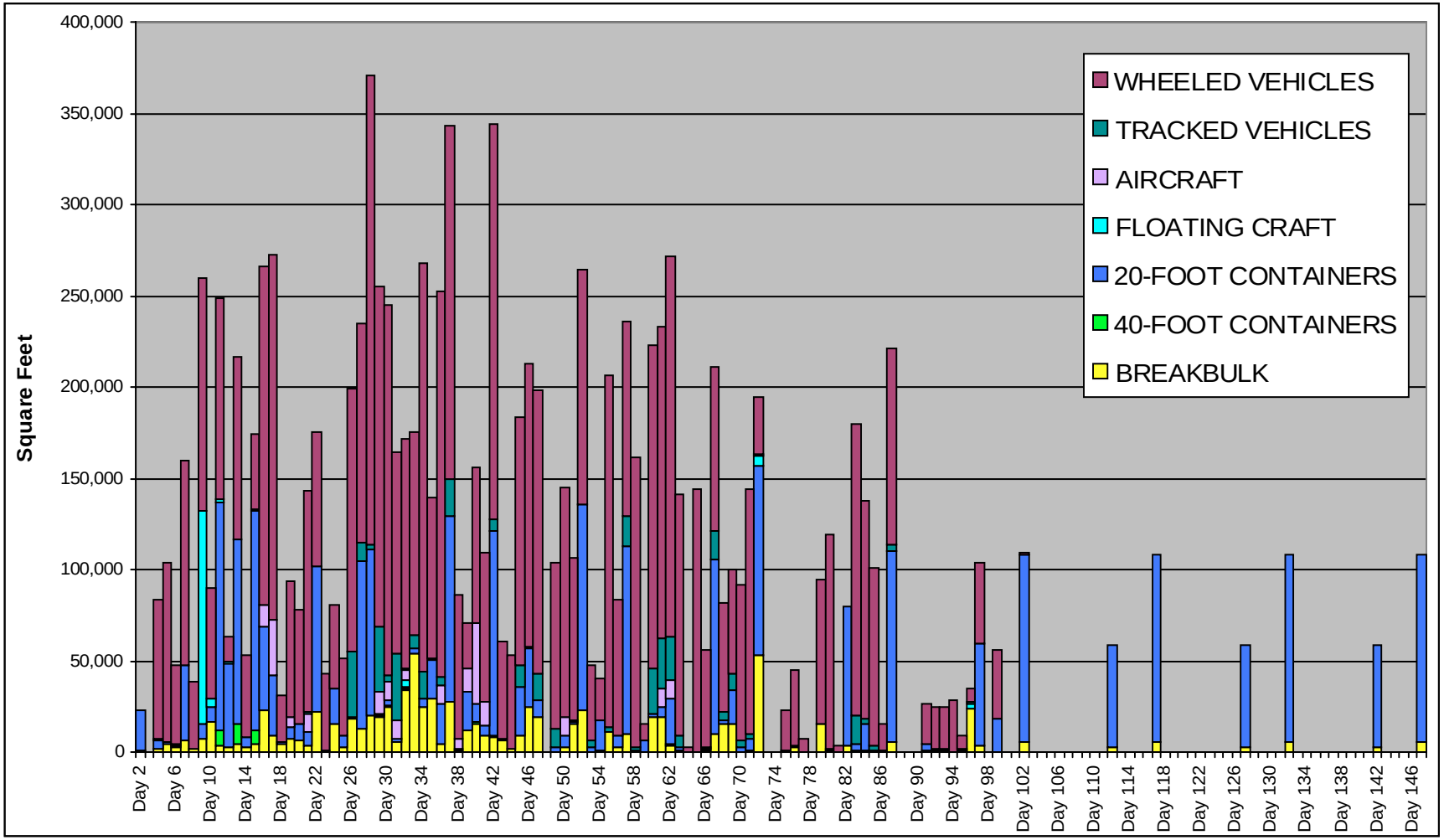


Figure B-10. Total Square Feet of Cargo Arriving at the Port of Oakland

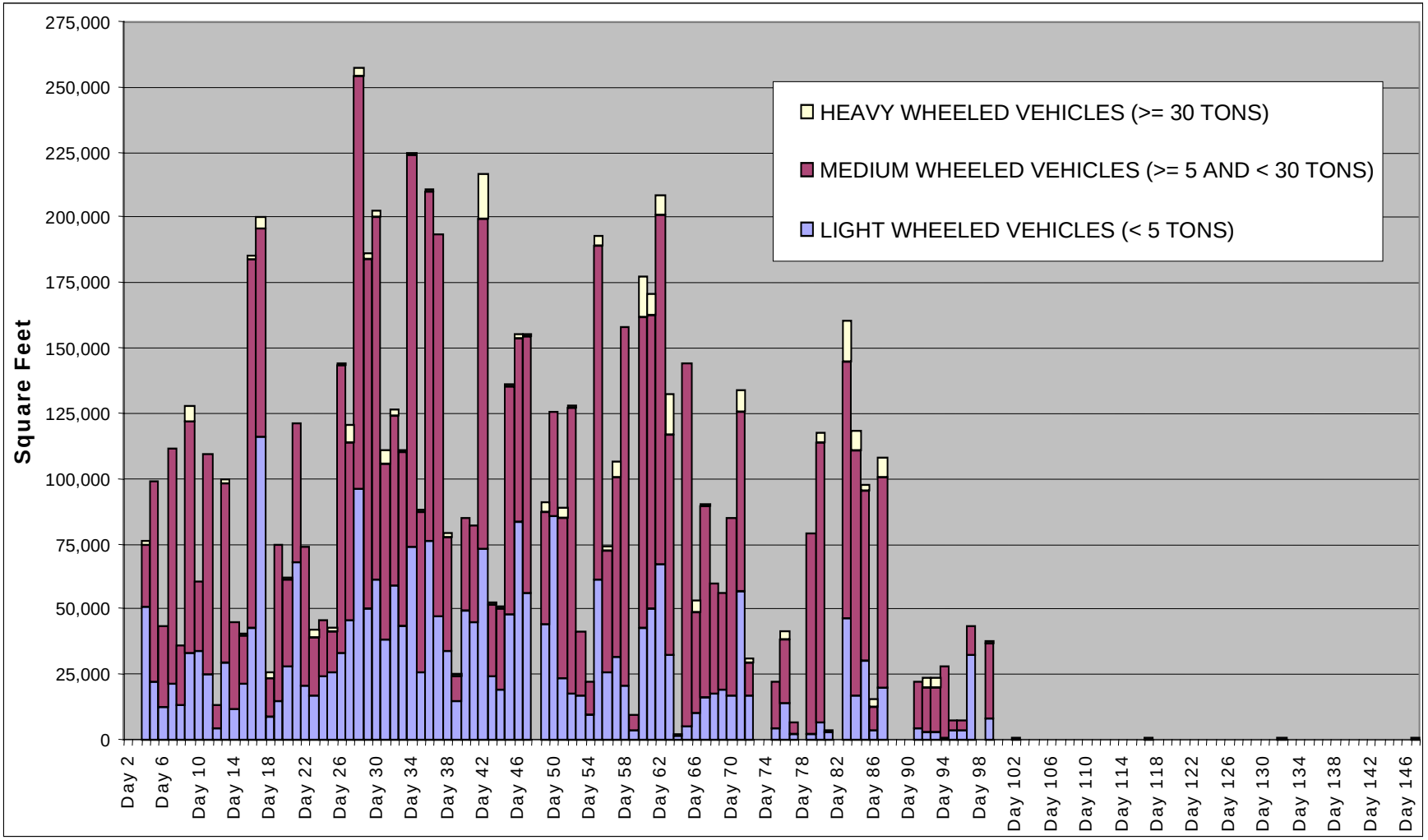


Figure B-11. Square Feet of Wheeled Vehicles Arriving at the Port of Oakland

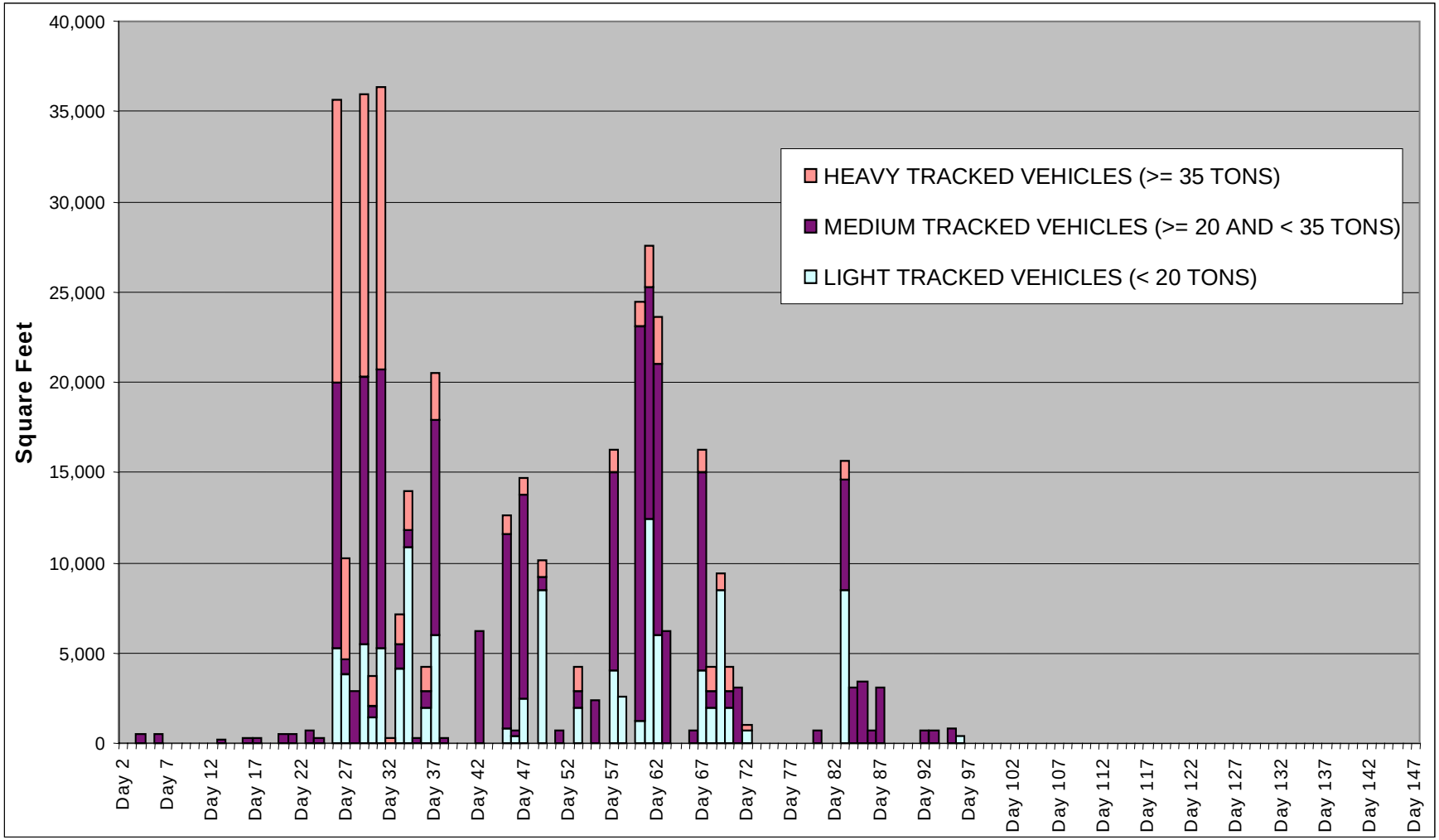


Figure B-12. Square Feet of Tracked Vehicles Arriving at the Port of Oakland

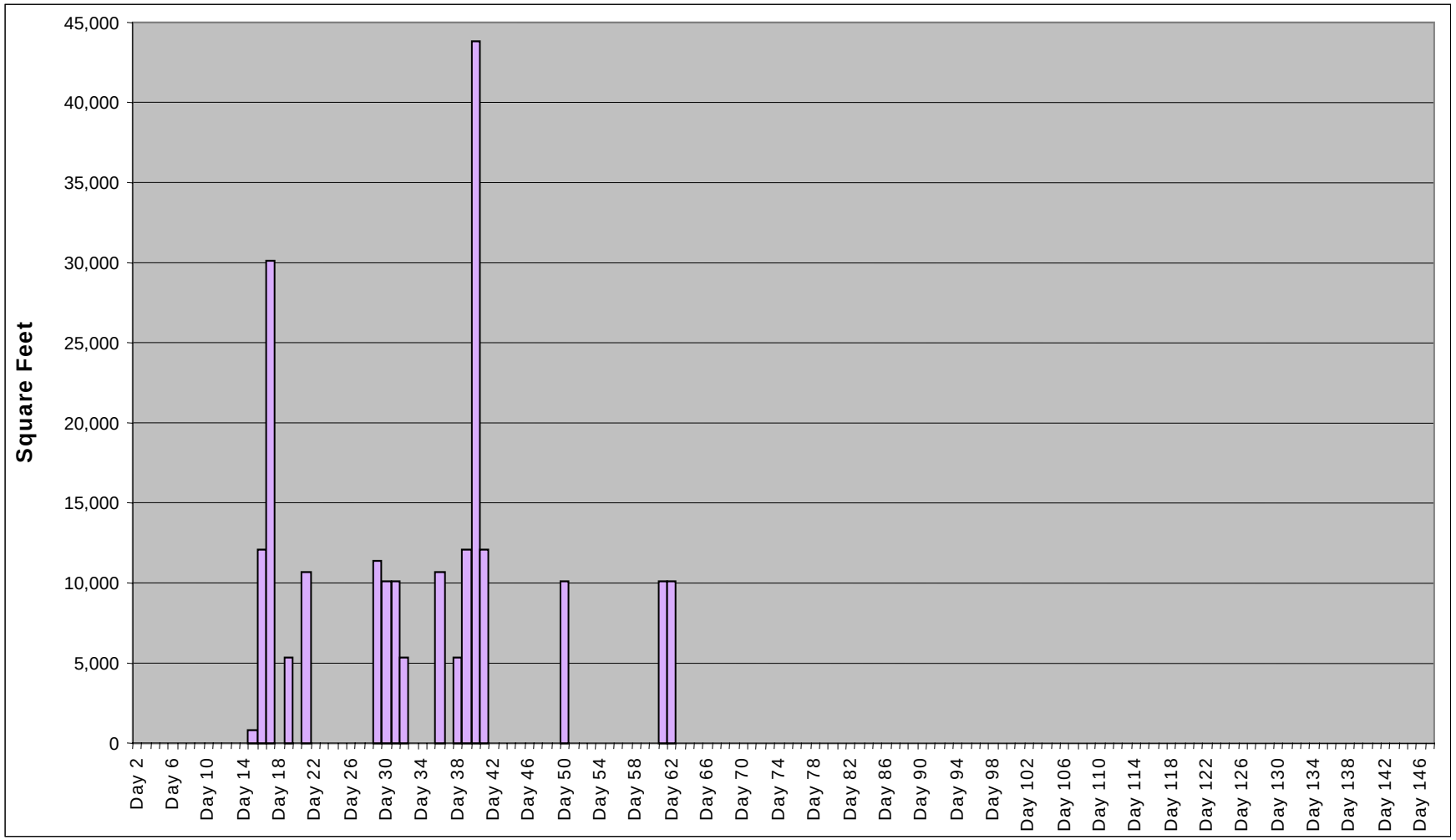


Figure B-13. Square Feet of Aircraft Arriving at the Port of Oakland

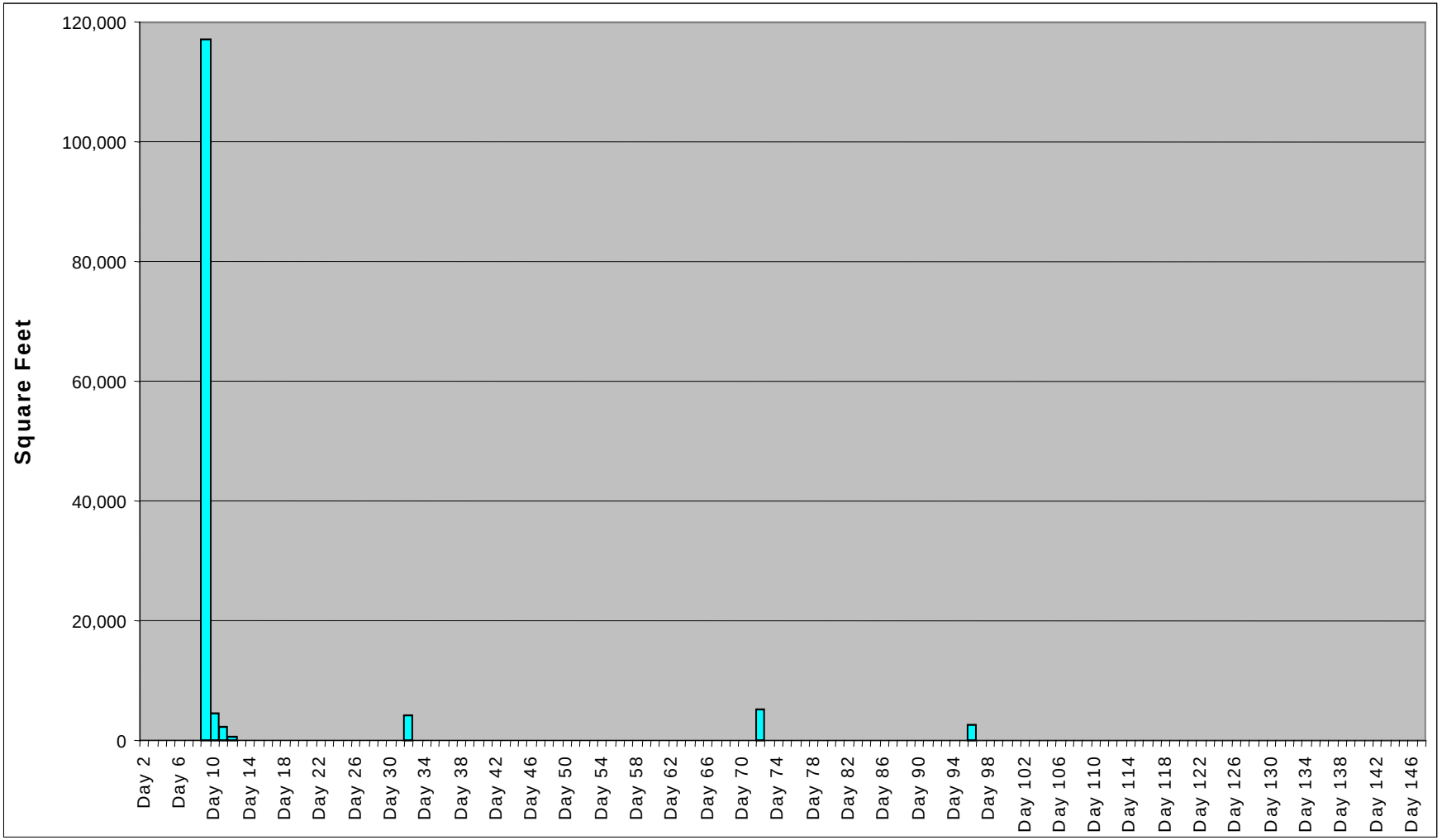


Figure B-14. Square Feet of Floating Craft Arriving at the Port of Oakland

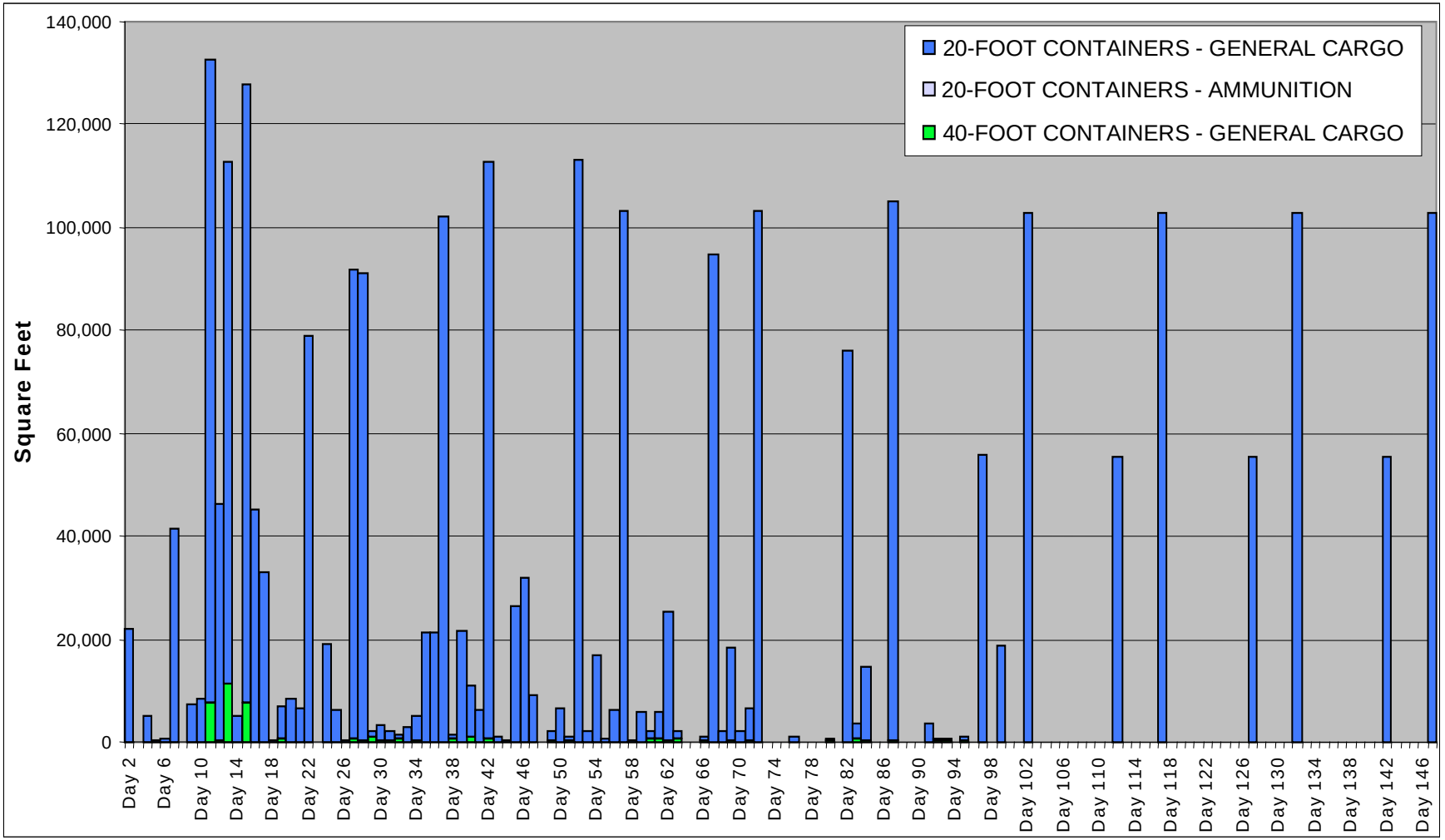


Figure B-15. Square Feet of Containers Arriving at the Port of Oakland

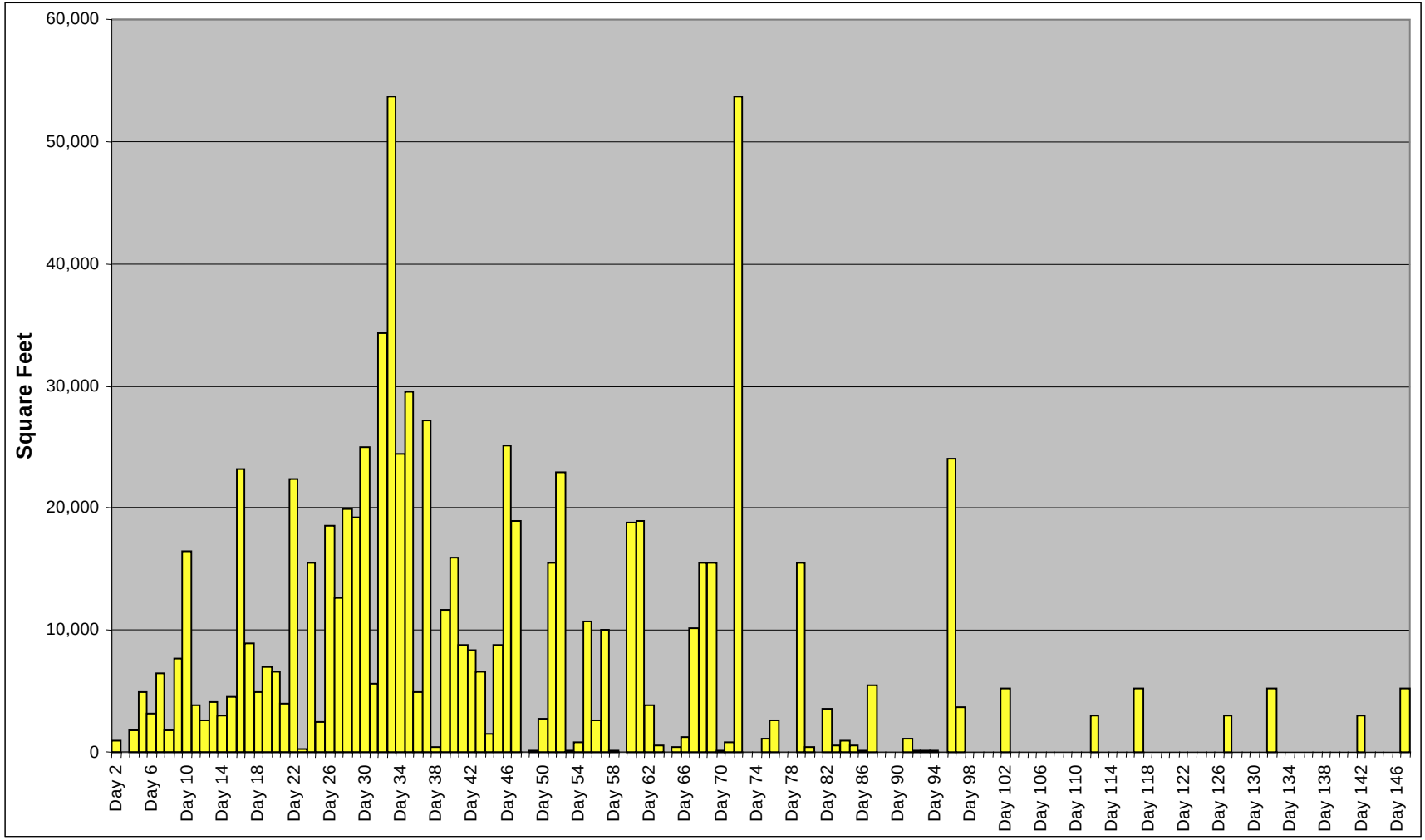


Figure B-16. Square Feet of Breakbulk Cargo Arriving at the Port of Oakland

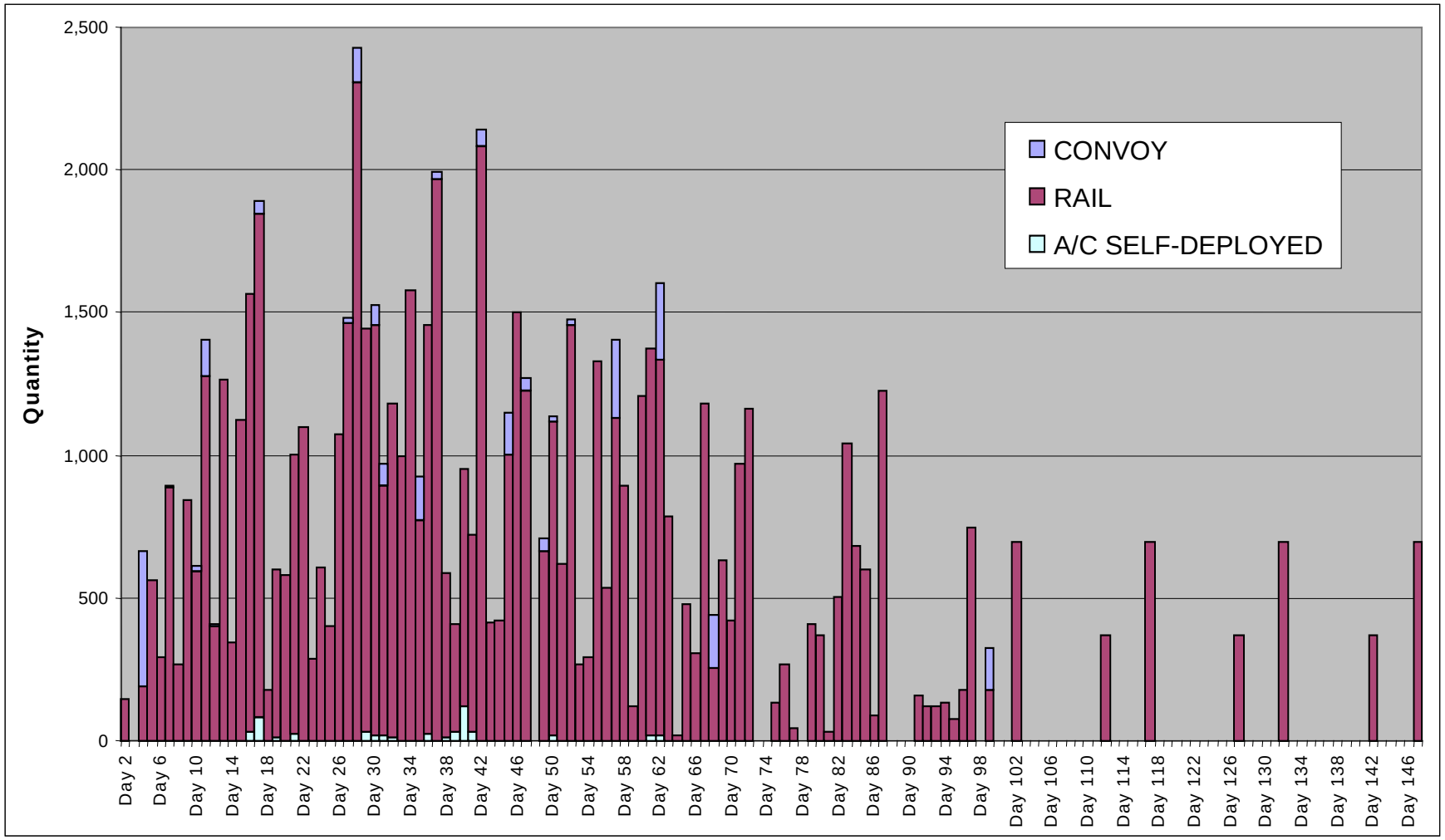


Figure B-17. Quantity of Items Arriving by Mode to the Port of Oakland

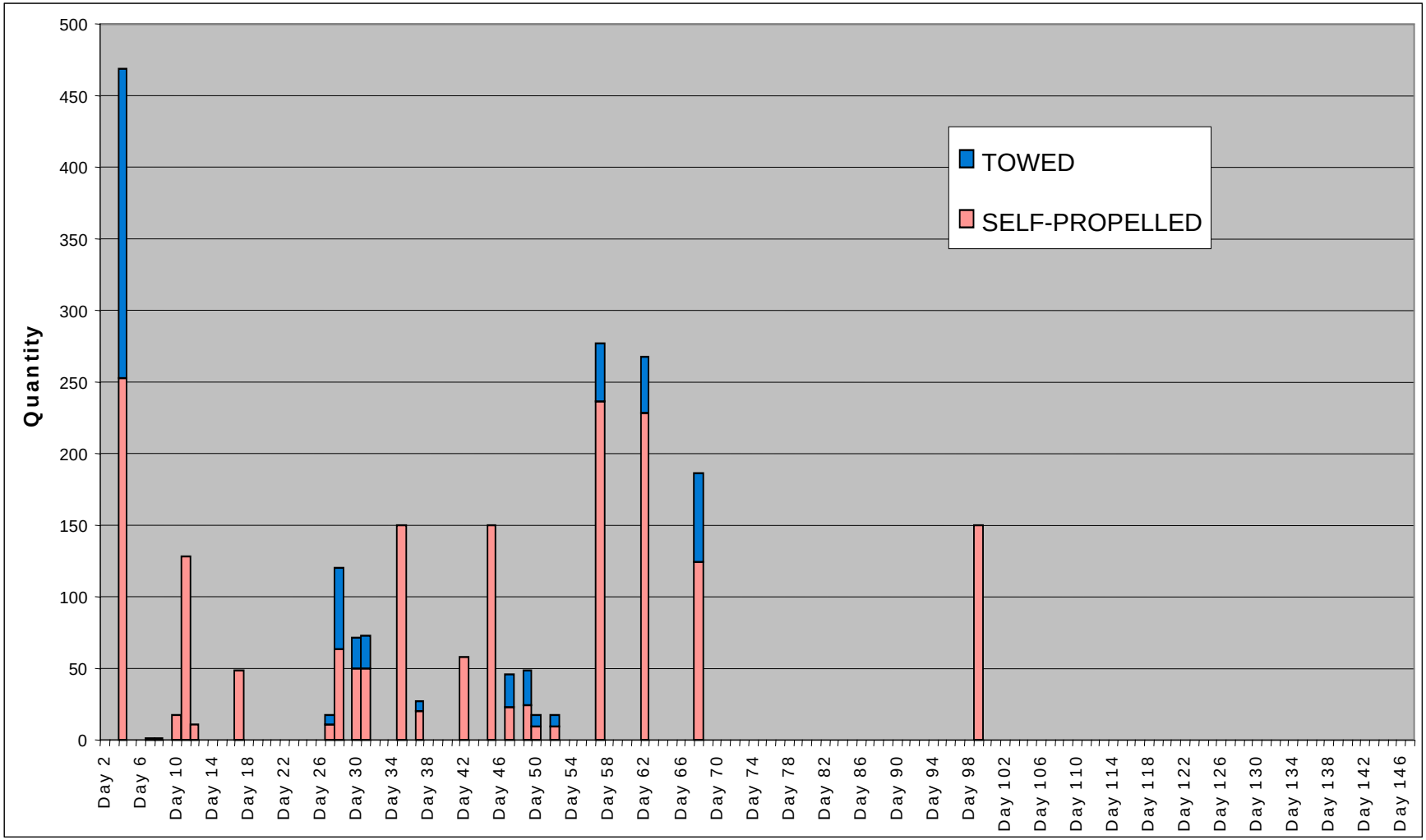


Figure B-18. Quantity of Wheeled Vehicles Convoying to the Port of Oakland

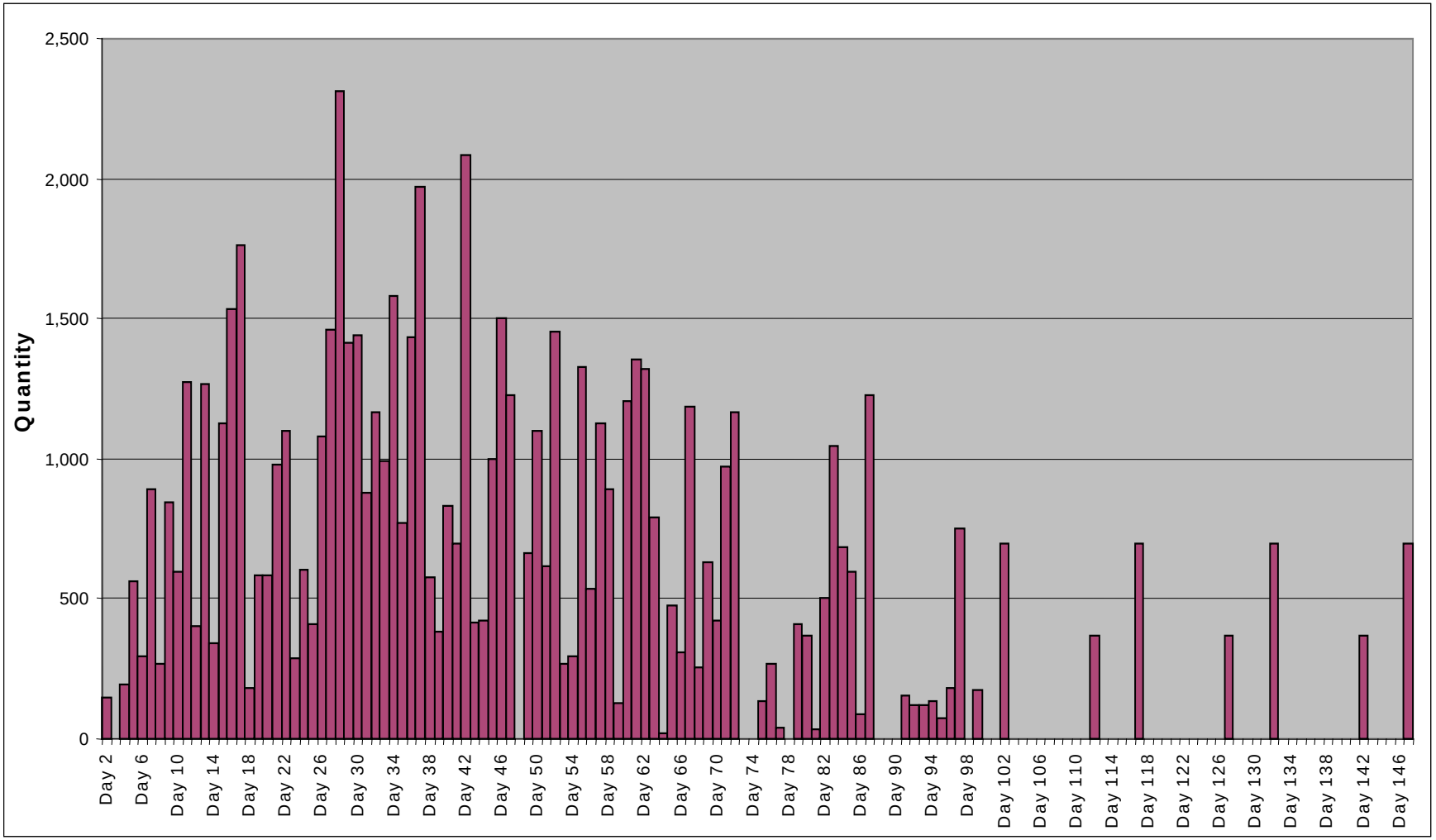


Figure B-19. Quantity of Items Arriving by Rail to the Port of Oakland

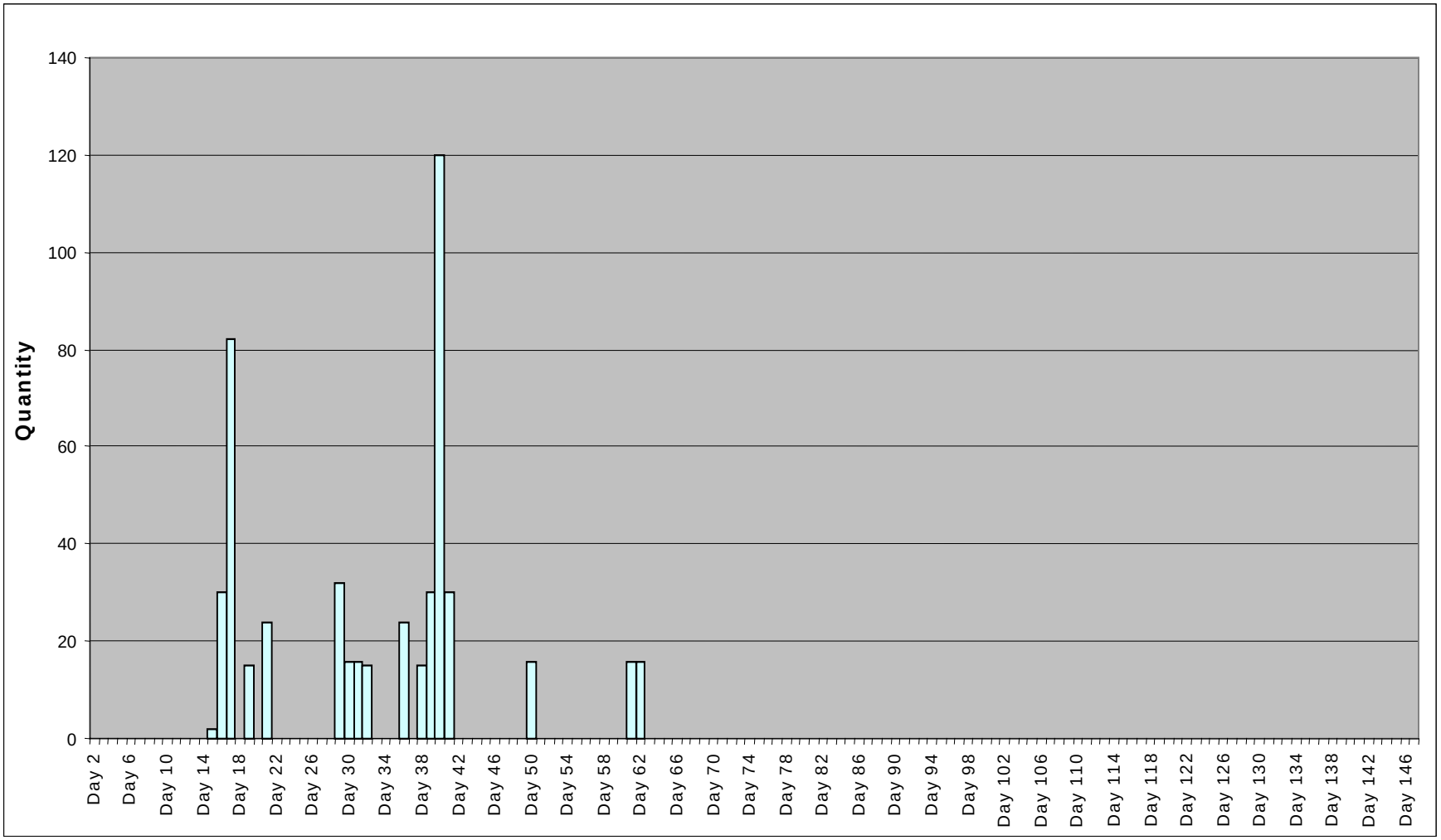


Figure B-20. Quantity of Aircraft Self-Deploying to the Port of Oakland

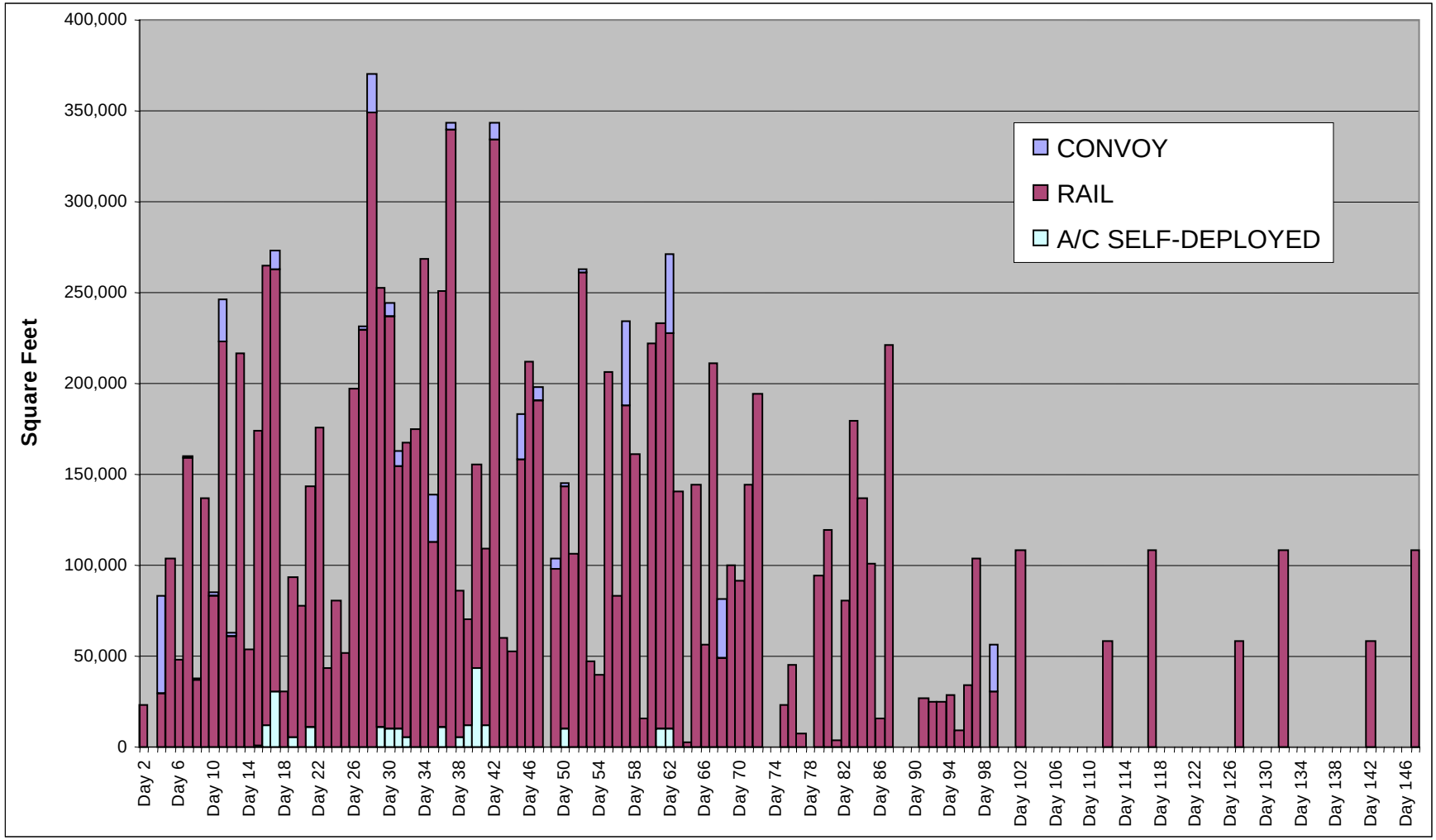


Figure B-21. Square Feet of Cargo Arriving by Mode to the Port of Oakland

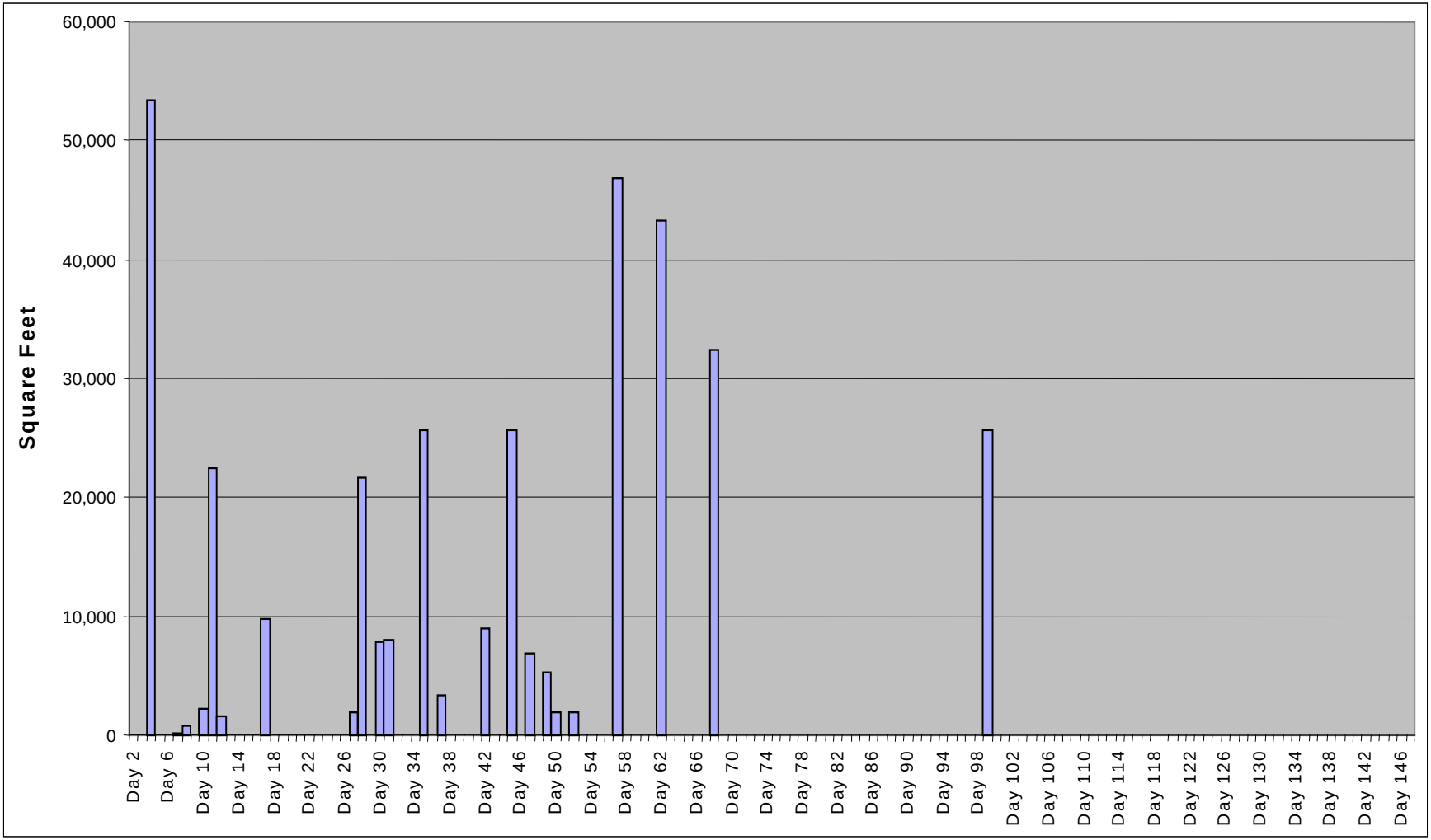


Figure B-22. Square Feet of Wheeled Vehicles Convoying to the Port of Oakland

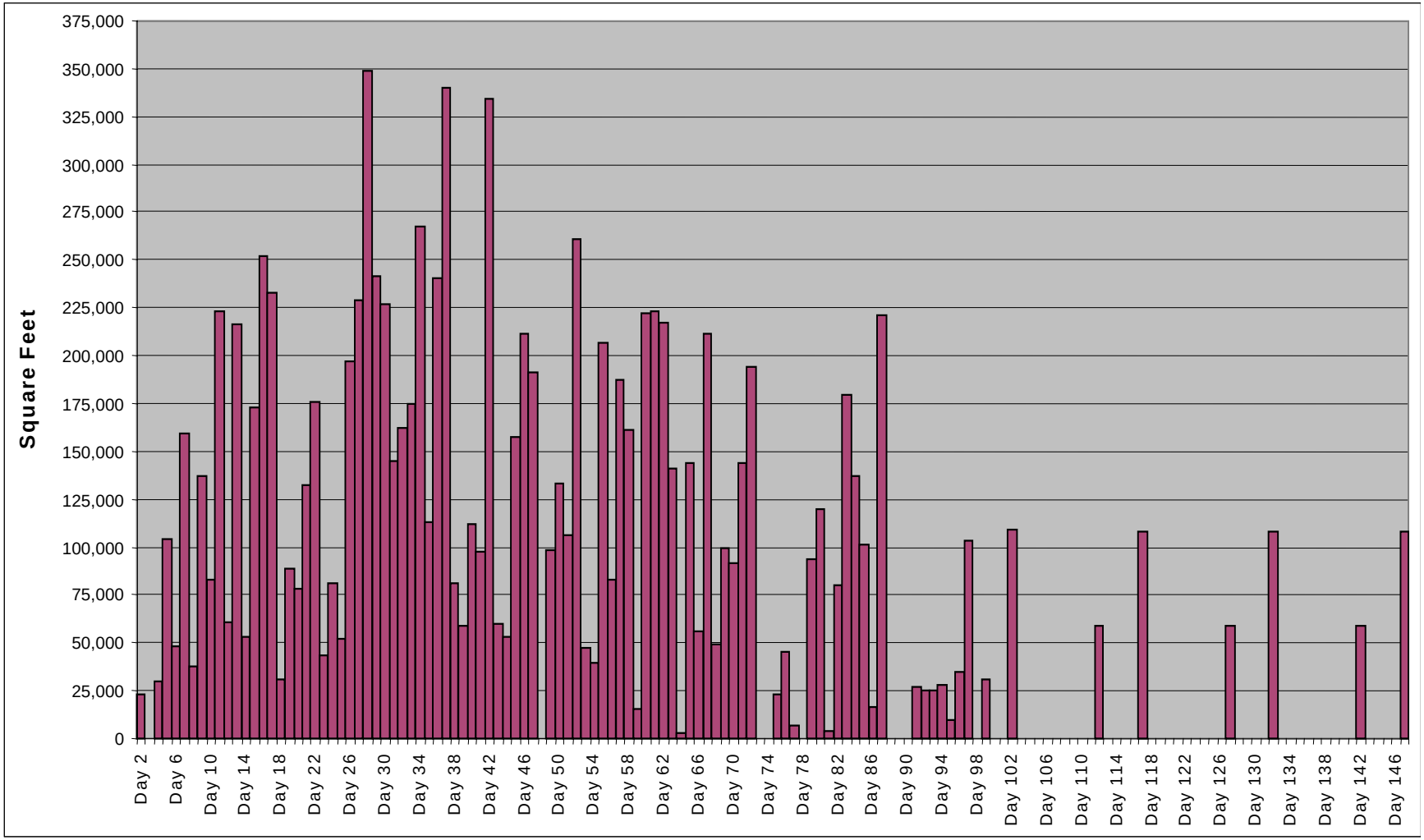


Figure B-23. Square Feet of Cargo Arriving by Rail to the Port of Oakland

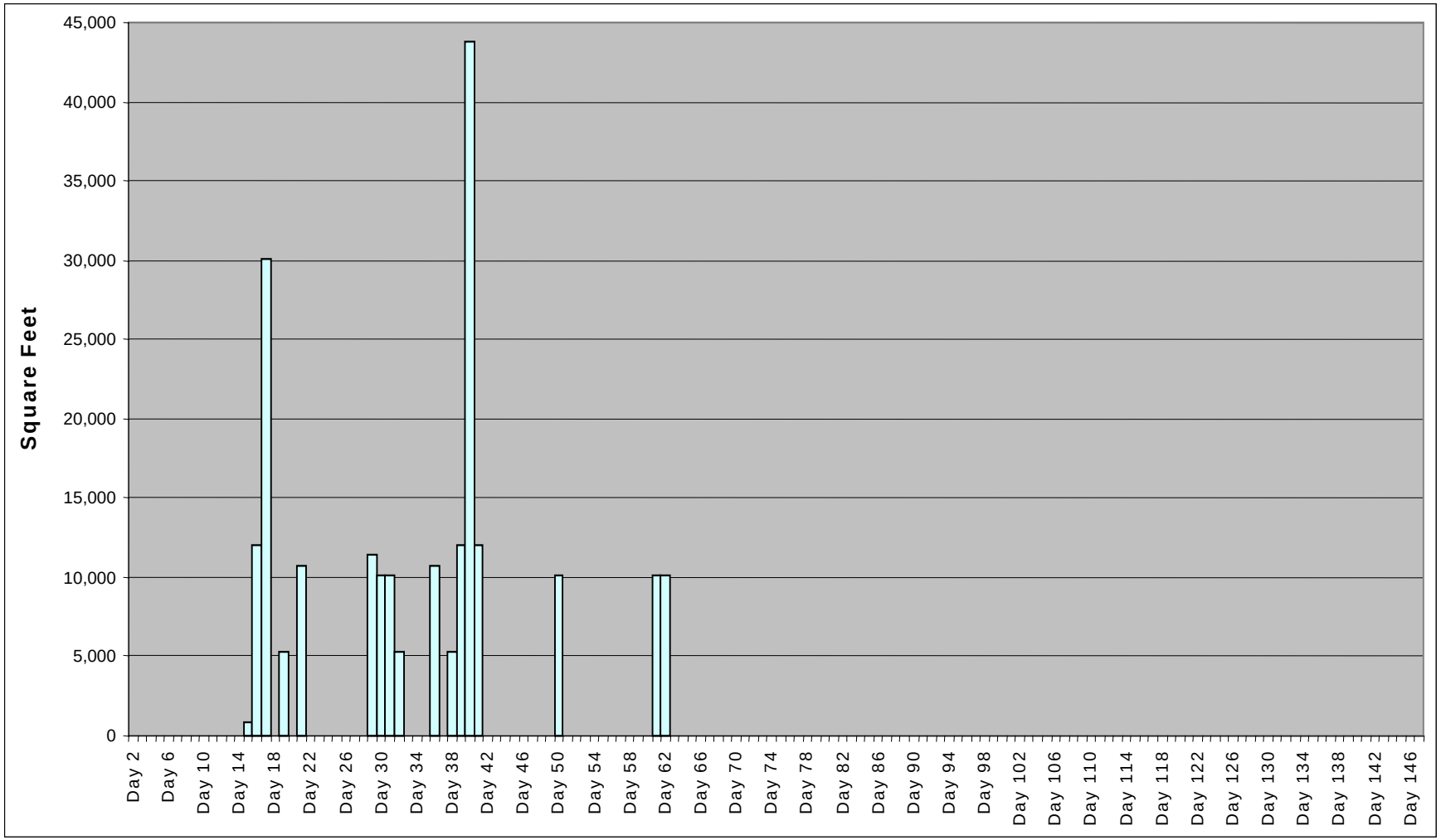


Figure B-24. Square Feet of Aircraft Self-Deploying to the Port of Oakland

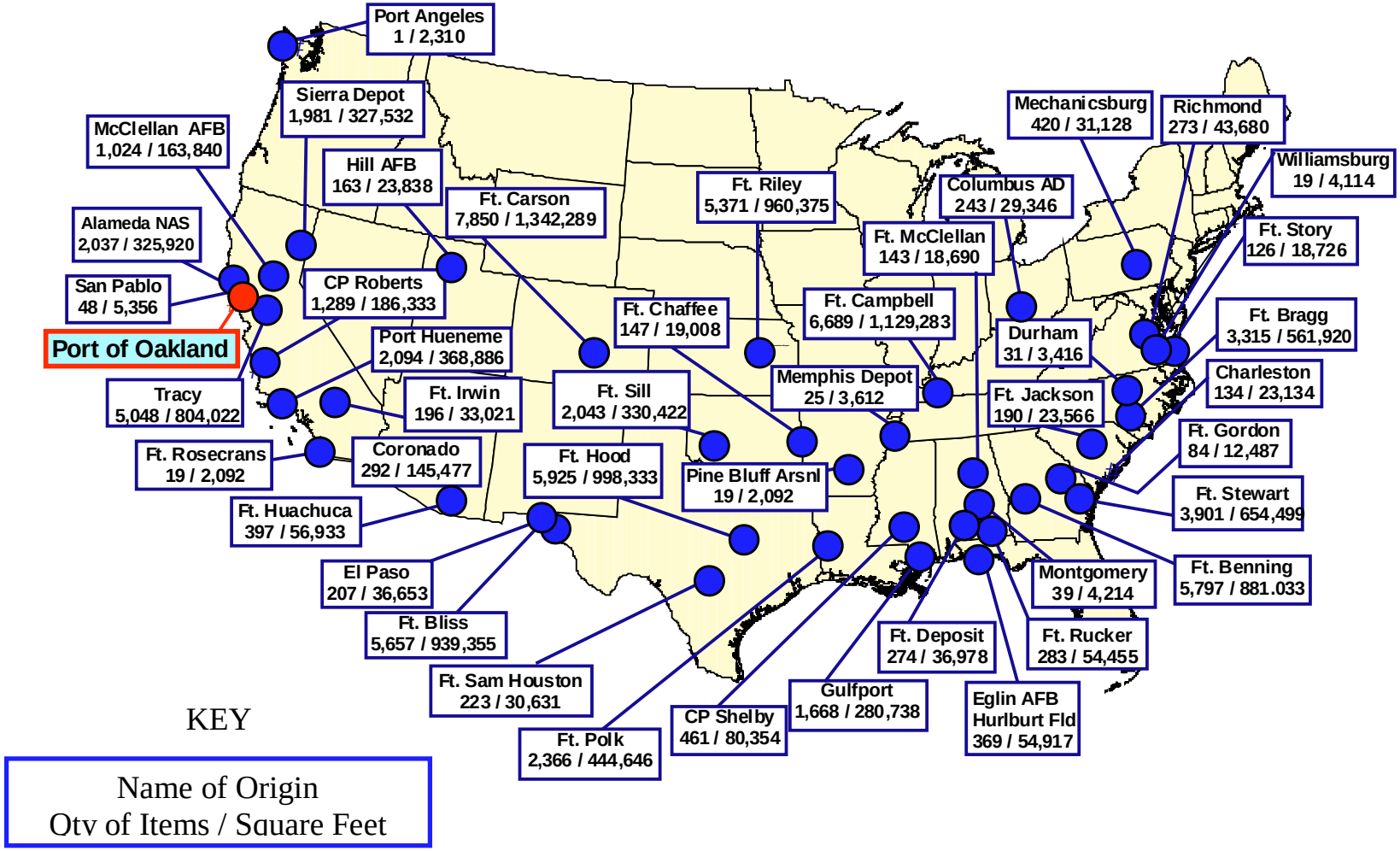


Figure B-25. Amount of Cargo Arriving at the Port of Oakland by Origin

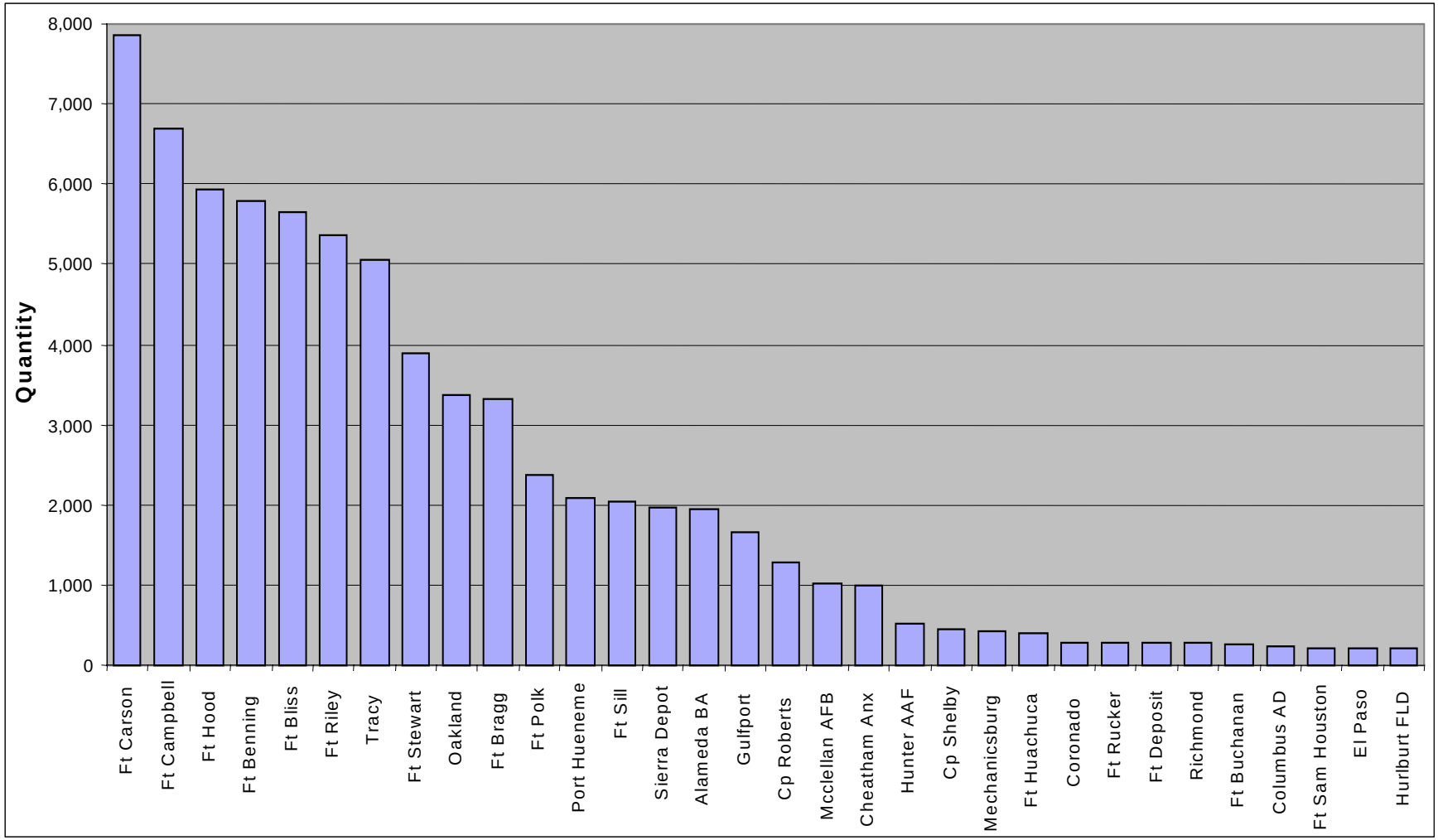


Figure B-26. Quantity of Items Arriving at the Port of Oakland by Origin

Table B-1
Quantity of Items Arriving at the Port of Oakland by Origin
(Origins not in Figure B-26)

Quantity	Origin	State
196	Fort Irwin	California
190	Fort Jackson	South Carolina
163	Elgin Air Force Base	Florida
163	Hill Air Force Base	Utah
155	Oakland Army Base	California
147	Fort Chaffee	Arkansas
143	Fort McClellan	Alabama
134	Charleston	South Carolina
126	Fort Story	Virginia
101	Alameda NAS	California
84	Fort Gordon	Georgia
73	Guam Intl	Guam
48	San Pablo	California
43	Ogden Ordnance Plant	Utah
39	Montgomery	Alabama
31	Durham	North Carolina
27	Tracy Municipal Airport	California
25	Memphis Depot	Tennessee
19	Fort Rosecrans	California
19	Pine Bluff Arsenal	Arkansas
19	Williamsburg	Virginia
6	Badin	North Carolina
6	Camp Pendleton	California
6	Fort Dix	New Jersey
6	Patrick Air Force Base	Florida
5	Hammond	Louisiana
5	Key Field	Mississippi
3	San Diego-NAVSTA	California
1	Coos Bay	Oregon
1	Port Angeles	Washington
1	San Diego	California

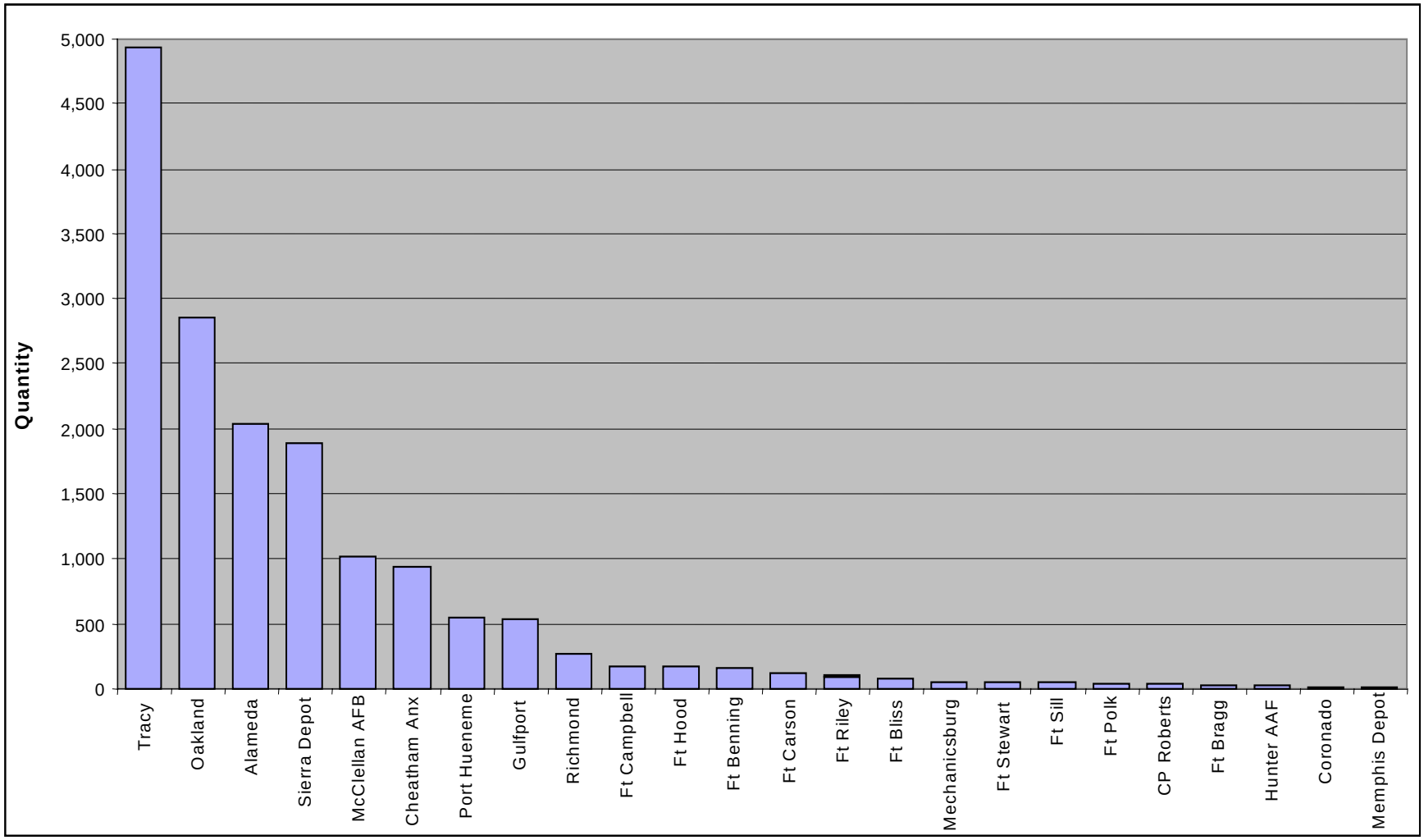


Figure B-27. Quantity of 20-Foot Containers Arriving at the Port of Oakland by Origin

Table B-2
Quantity of 20-Foot Containers
Arriving at the Port of Oakland by Origin
(Origins not in Figure B-27)

Quantity	Origin	State
7	Fort Rucker	Alabama
6	Camp Shelby	Mississippi
5	Fort Deposit	Alabama
4	Fort Gordon	Georgia
2	Charleston	South Carolina
2	Fort Huachuca	Arizona
2	Fort Irwin	California
2	Hurlburt Field	Florida
1	Williamsburg	Virginia

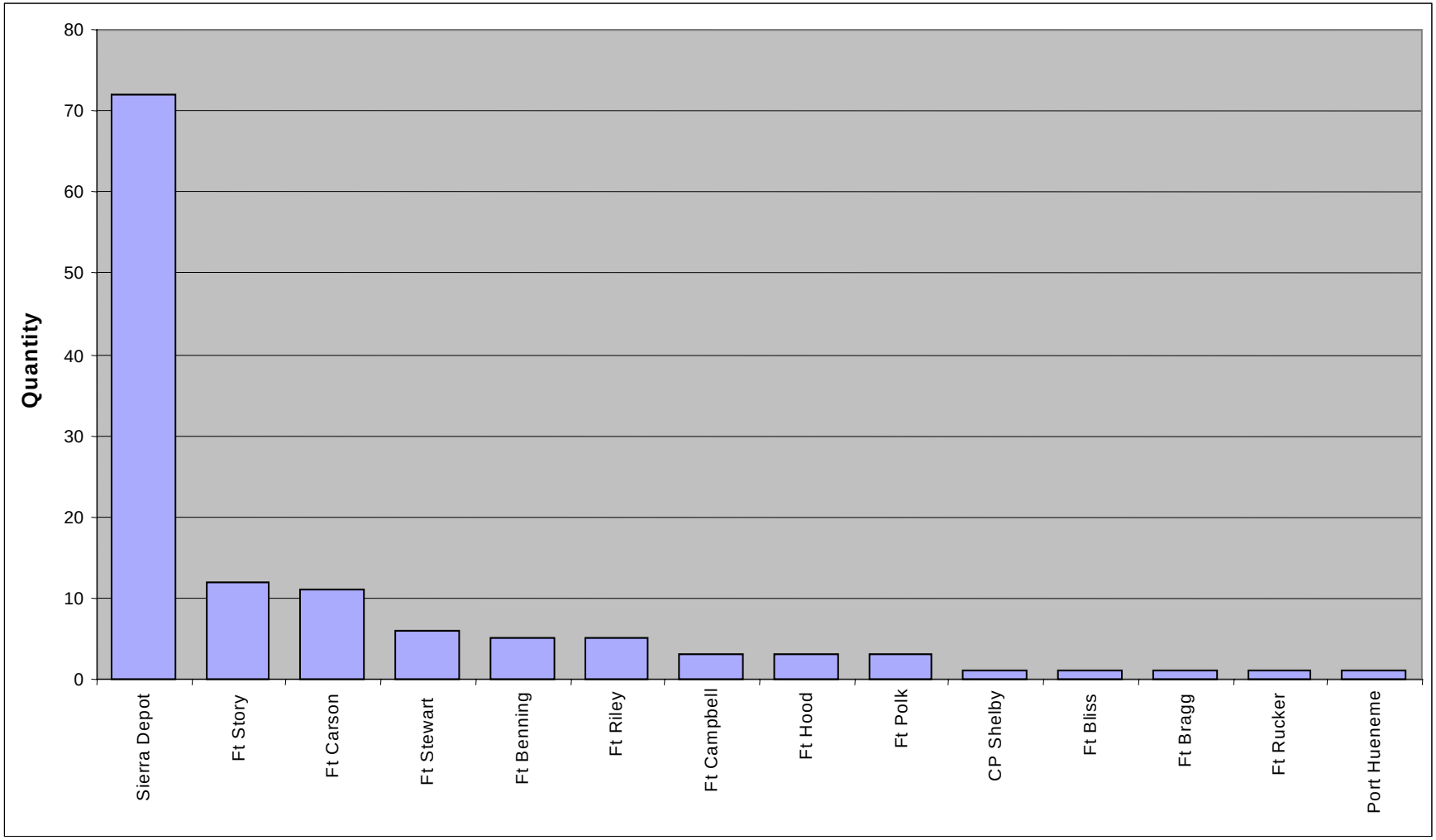


Figure B-28. Quantity of 40-Foot Containers Arriving at the Port of Oakland by Origin

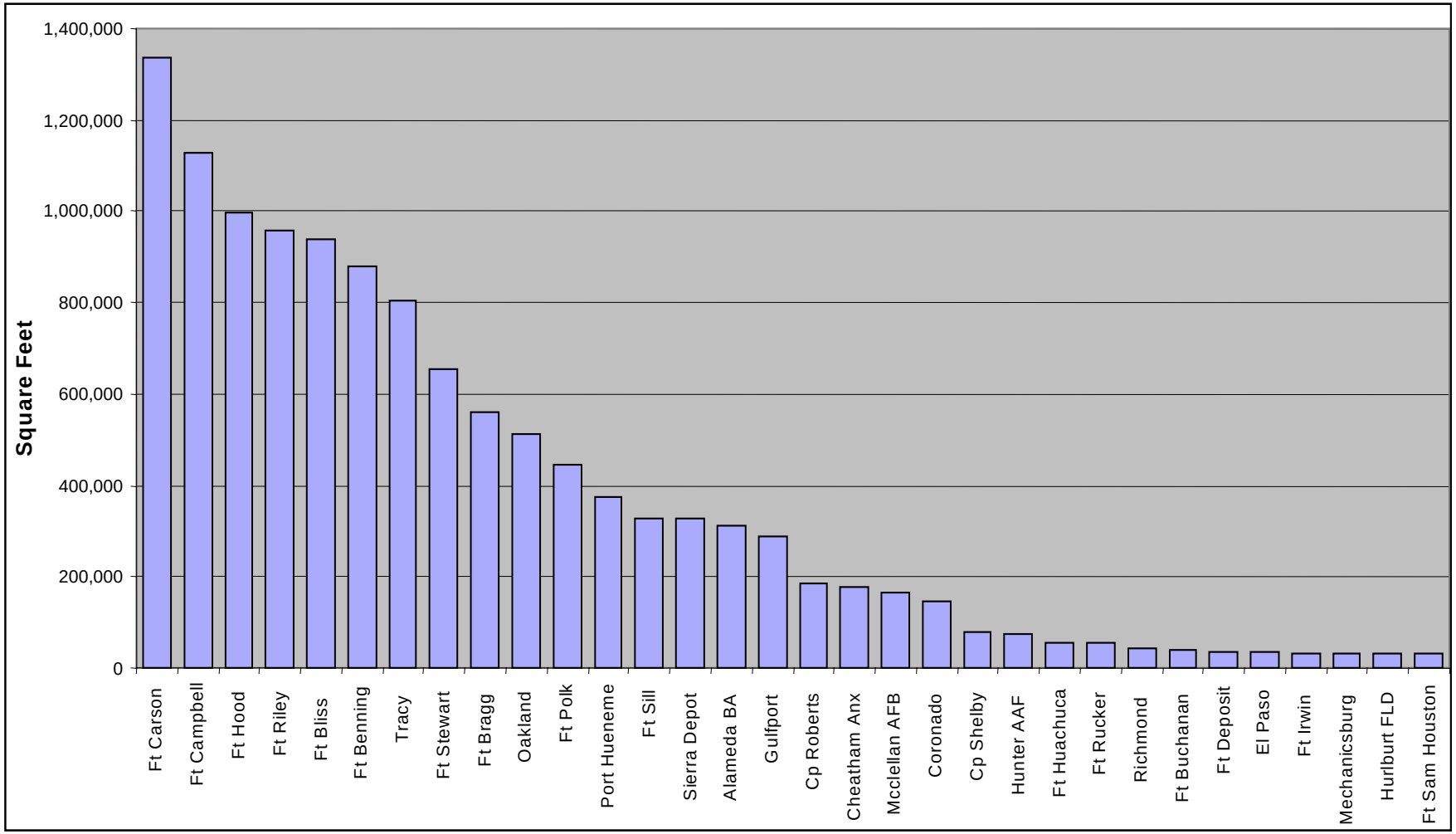


Figure B-29. Square Feet of Cargo Arriving at the Port of Oakland by Origin

Table B-3
Square Feet of Cargo Arriving at the Port of Oakland by Origin
(Origins not in Figure B-29)

Square Feet	Origin	State
29,346	Columbus Army Depot	Ohio
23,838	Elgin Air Force Base	Florida
23,838	Hill Air Force Base	Utah
23,566	Fort Jackson	South Carolina
23,270	Charleston	South Carolina
23,146	Oakland Army Base	California
19,008	Fort Chaffee	Arkansas
18,724	Fort Story	Virginia
18,690	Fort McClellan	Alabama
16,160	Alameda NAS	California
11,483	Fort Gordon	Georgia
8,080	Guam Intl	Guam
5,356	San Pablo	California
4,214	Montgomery	Alabama
4,114	Williamsburg	Virginia
3,612	Memphis Depot	Tennessee
3,416	Durham	North Carolina
2,310	Coos Bay	Oregon
2,310	Port Angeles	Washington
2,310	San Diego	California
2,091	Fort Rosecrans	California
2,092	Pine Bluff Arsenal	Arkansas
1,261	Ogden Ordnance Plant	Utah
984	San Diego-NAVSTA	California
756	Fort Dix	New Jersey
663	Tracy Municipal Airport	California
616	Badin	North Carolina
574	Hammond	Louisiana
574	Key Field	Mississippi
548	Patrick Air Force Base	Florida
149	Camp Pendleton	California

APPENDIX C

PORT OF SAN DIEGO

The graphs below represent the cargo scheduled to arrive at the Port of San Diego as outlined in the TPFDD. Cargo is scheduled to arrive at the port starting on day 0 and continuing through day 71.

This appendix includes cargo to be transported via Military Sealift Command (MSC) ship. There is also a Marine Corps Assault Follow on Echelon (AFOE) scheduled in the TPFDD to arrive at the port. The graphs for the AFOE are provided in appendix D.

The Port of San Diego is scheduled to receive cargo from seven separate origins. The cargo consists entirely of unit equipment and is mainly Marine Corps requirements. A map of the origin locations is provided in Figure C-1. The quantity of railcars arriving at the Port of San Diego is provided in Figure C-2. Figures C-3 through C-7 show the quantity of items by category arriving at the port. Figures C-8 through C-12 show the same information in terms of square footage.

The heavy tracked vehicles in Figure C-5 are all arriving from Camp Pendleton and consist of 10 recovery vehicles and 4 armored vehicle bridge launchers. The breakbulk spike on C+0 shown in Figure C-12 is four-170' patrol coastal ships from San Diego Naval Station and will most likely self-deploy to the port.

Figures C-13 through C-15 provide a breakdown of the quantity of items arriving at the port according to the mode of transportation (convoy and rail). Similarly, Figures C-16 through C-18 reflect the same information presented in terms of square footage.

Figure C-19 shows the amount of cargo in terms of quantity and square feet for each origin scheduled in the TPFDD. The bar graph in Figure C-20 provides the total quantity of items for each origin. The quantity of 20-foot containers arriving at the port from each origin is provided in Figure C-21. The largest container requirement will be arriving at the port from Miramar NAS, California. Figure C-22 shows the square feet of cargo by origin.

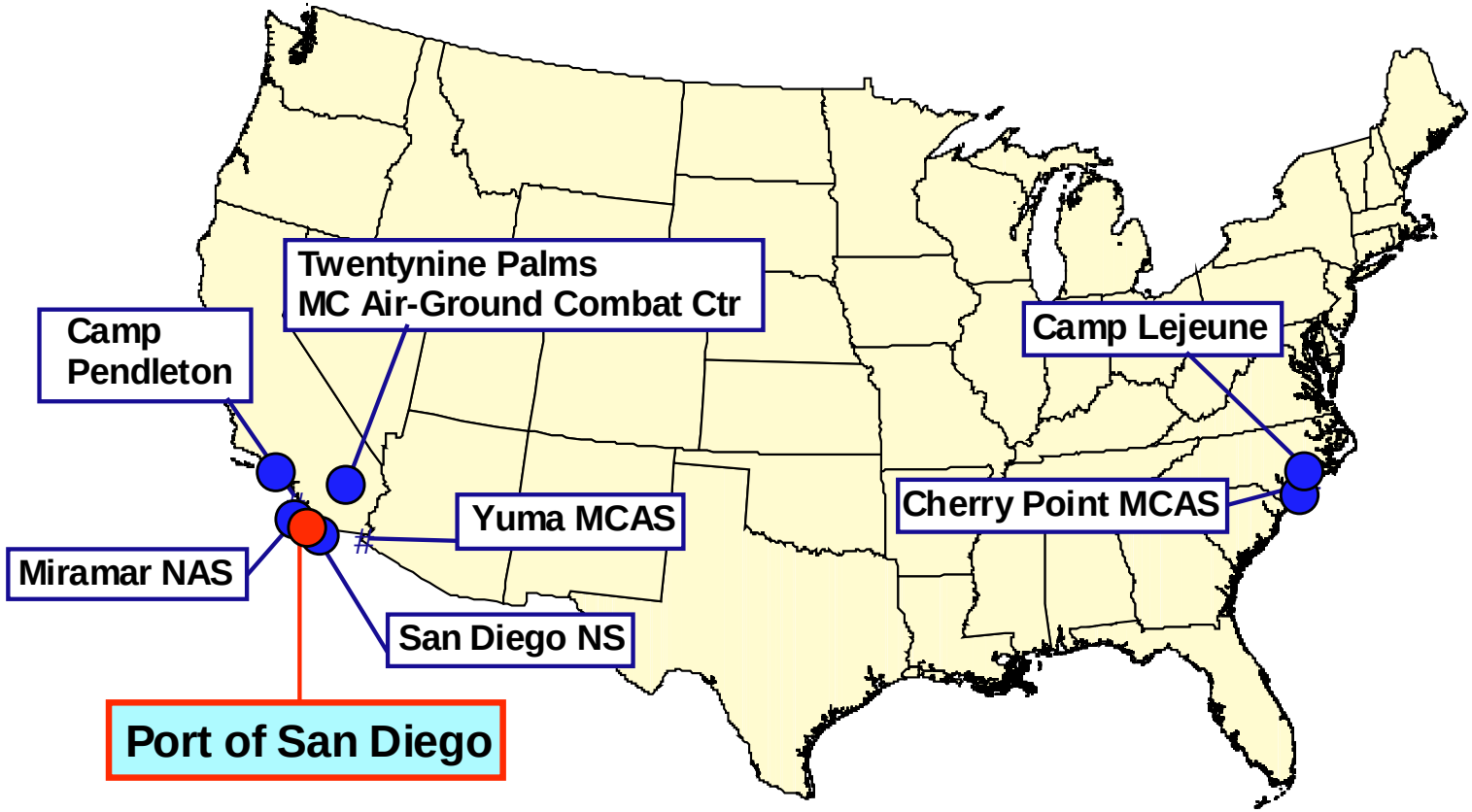


Figure C-1. Cargo Arrives at the Port of San Diego from Seven Origins

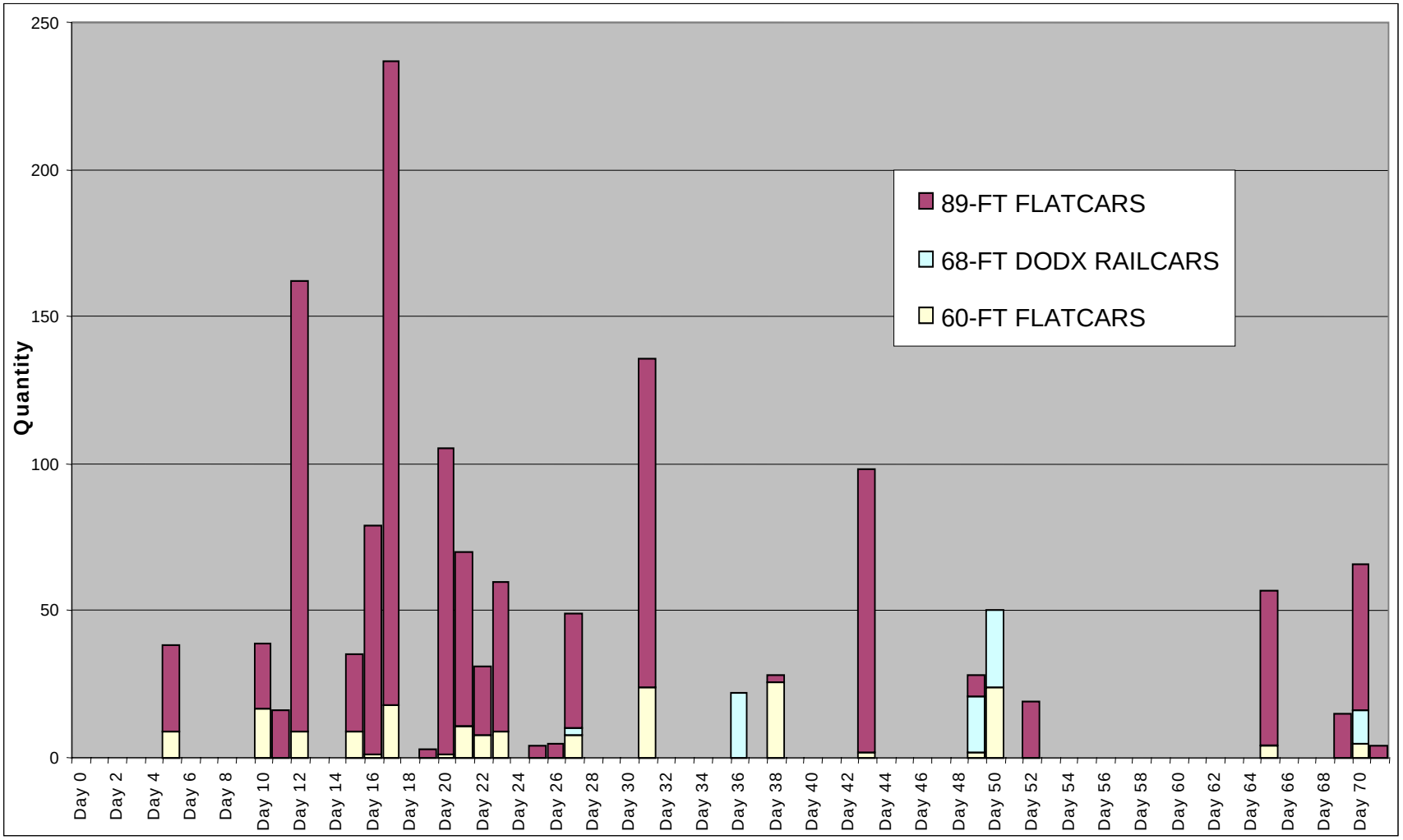


Figure C-2. Quantity of Railcars Arriving at the Port of San Diego

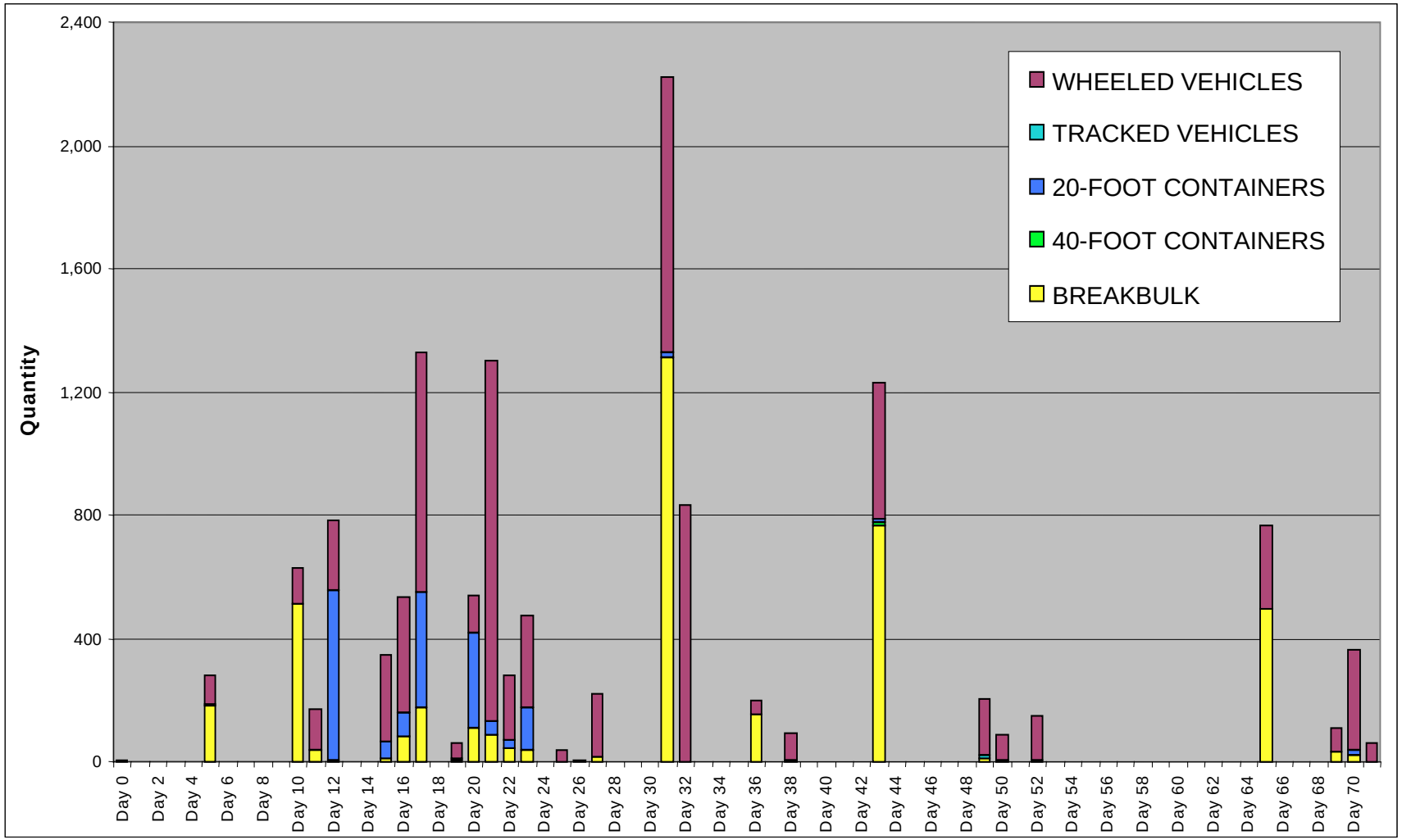


Figure C-3. Total Quantity of Items Arriving at the Port of San Diego

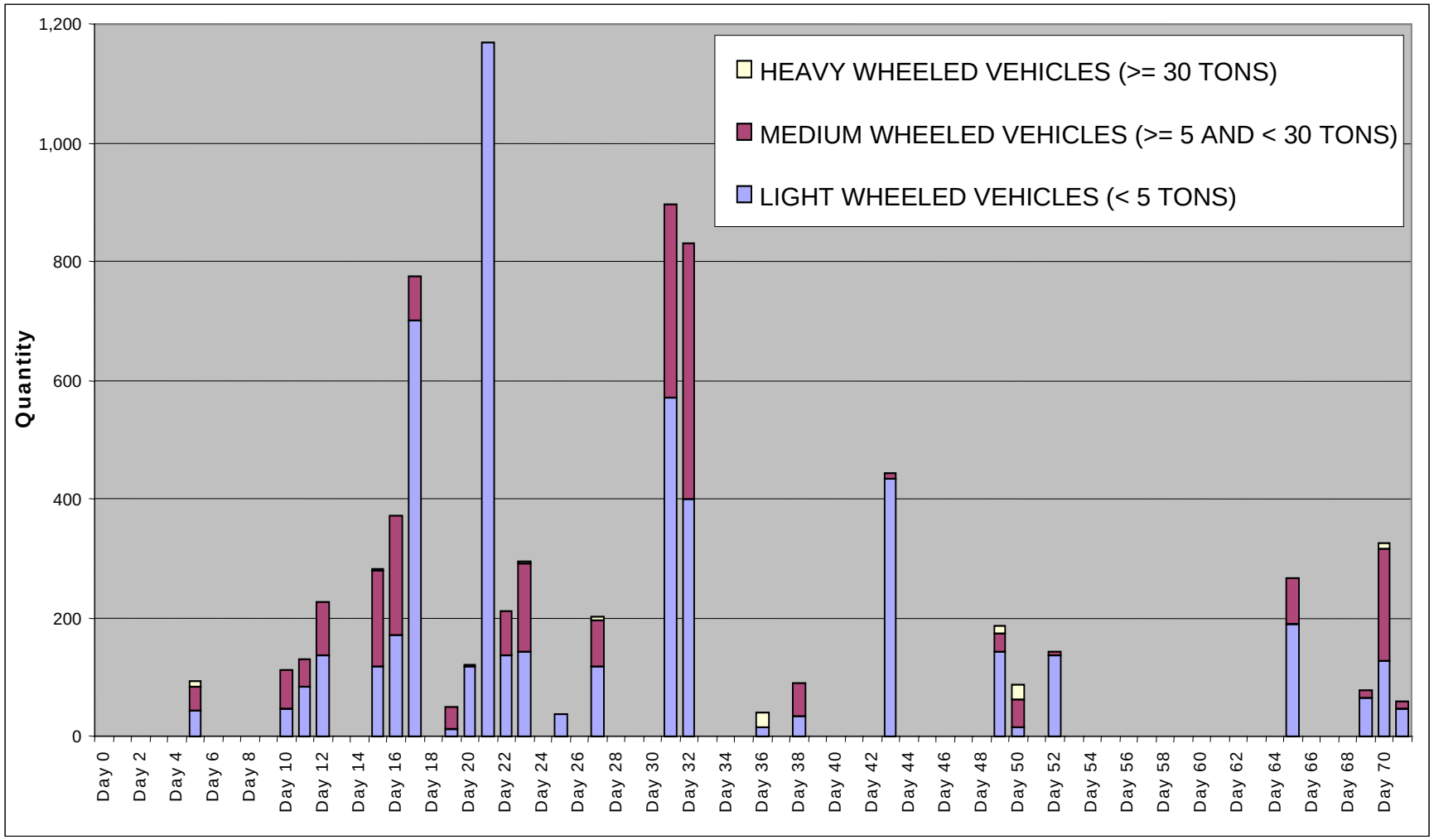


Figure C-4. Quantity of Wheeled Vehicles Arriving at the Port of San Diego

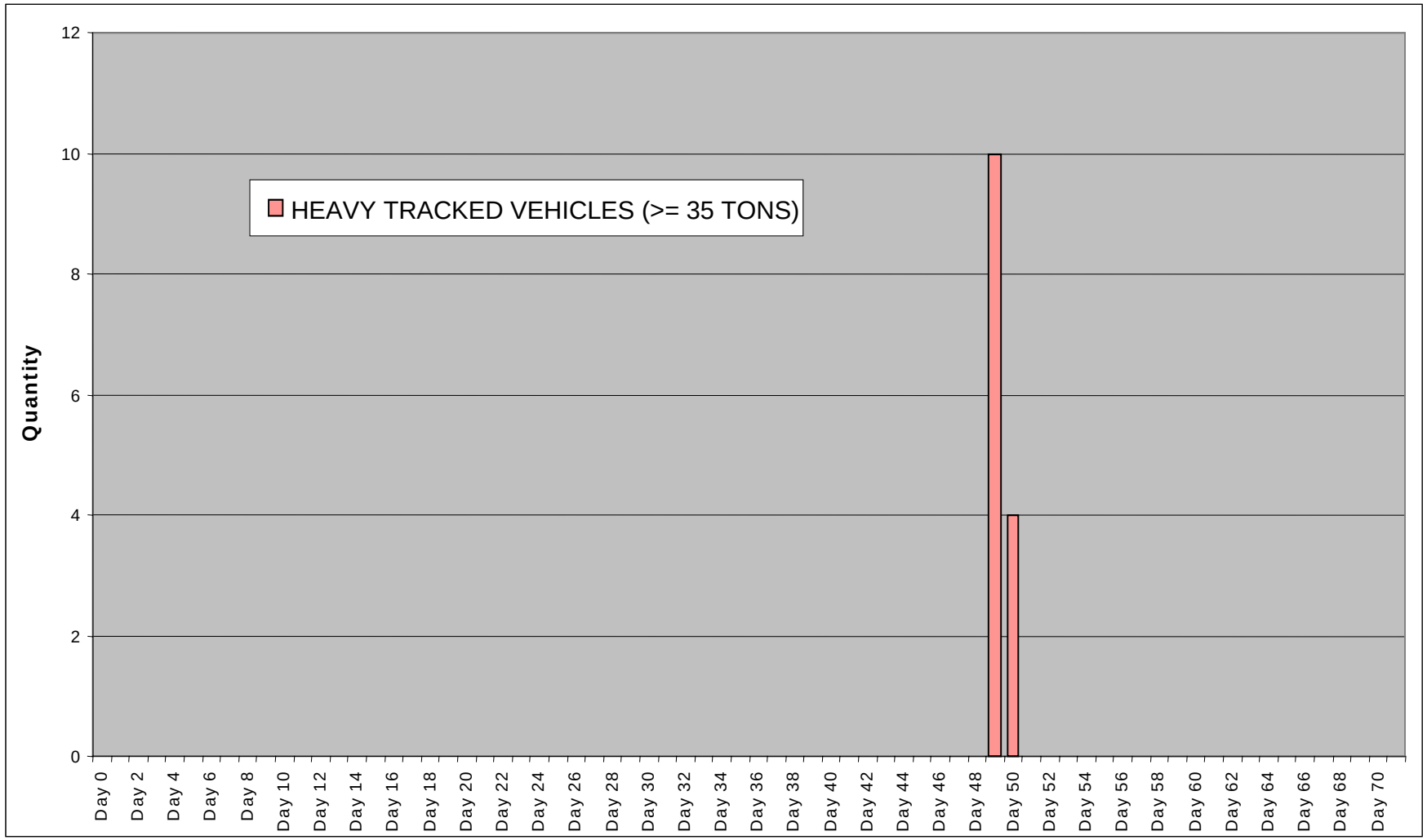


Figure C-5. Quantity of Tracked Vehicles Arriving at the Port of San Diego

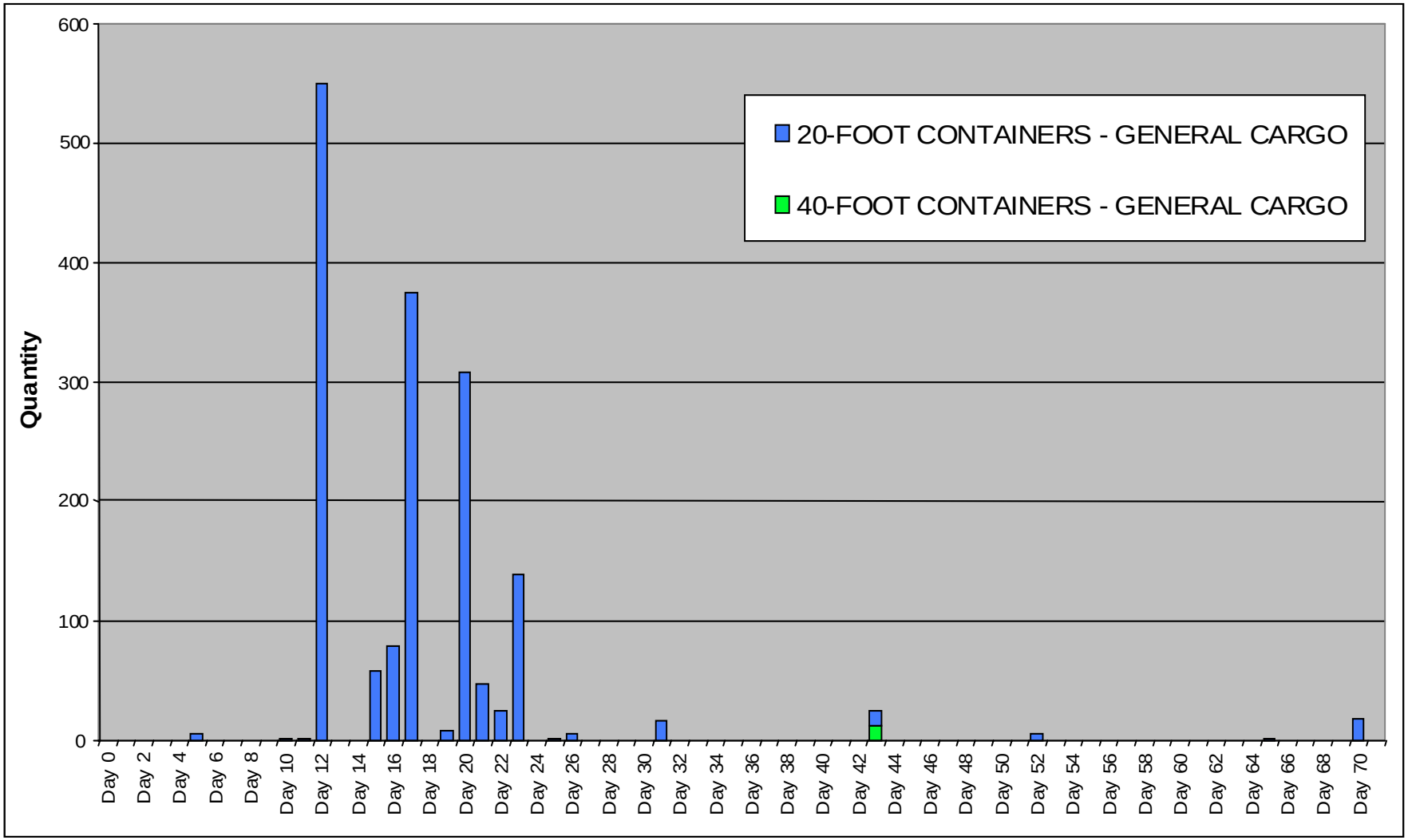


Figure C-6. Quantity of Containers Arriving at the Port of San Diego

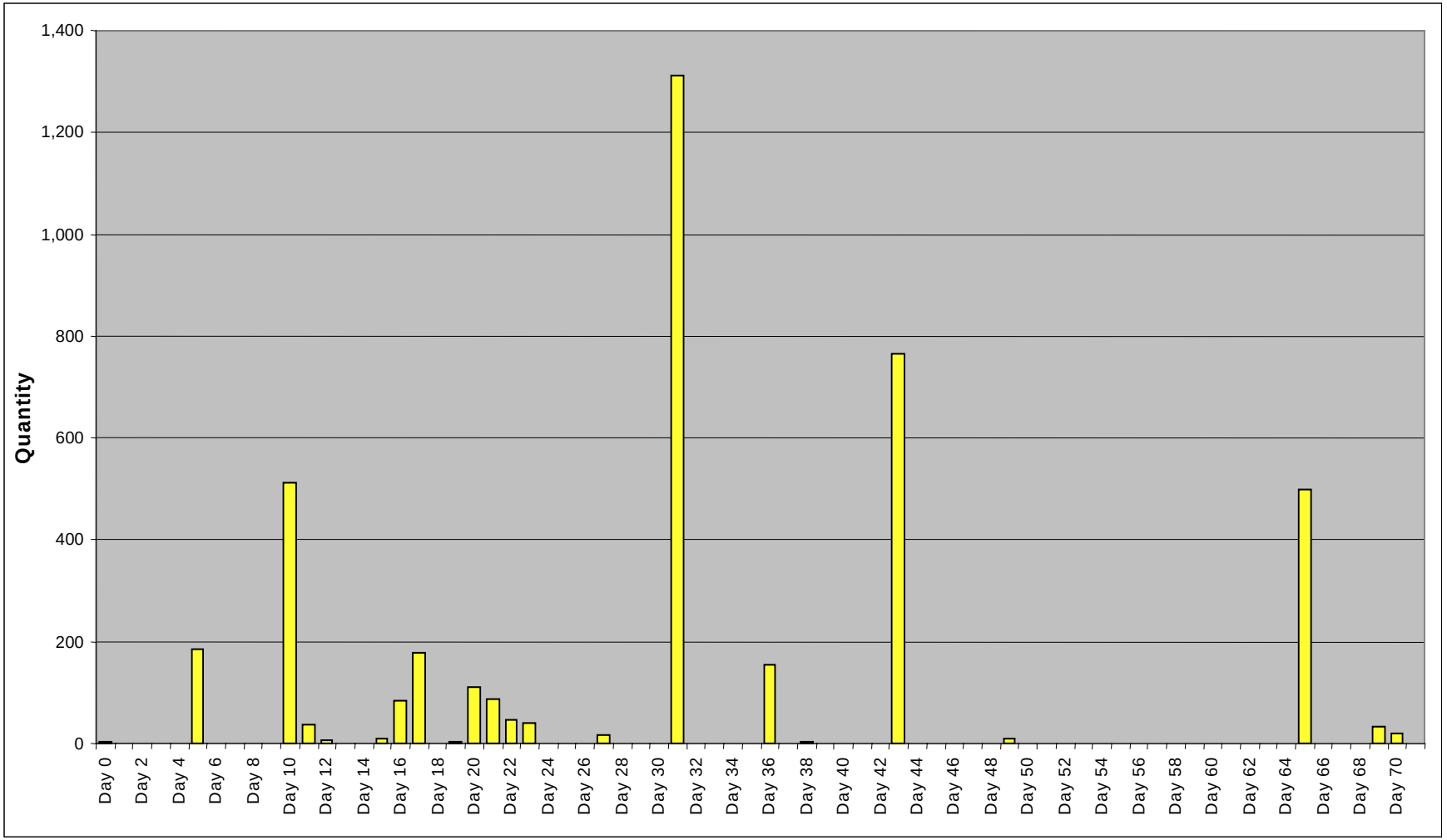


Figure C-7. Quantity of Breakbulk Items Arriving at the Port of San Diego

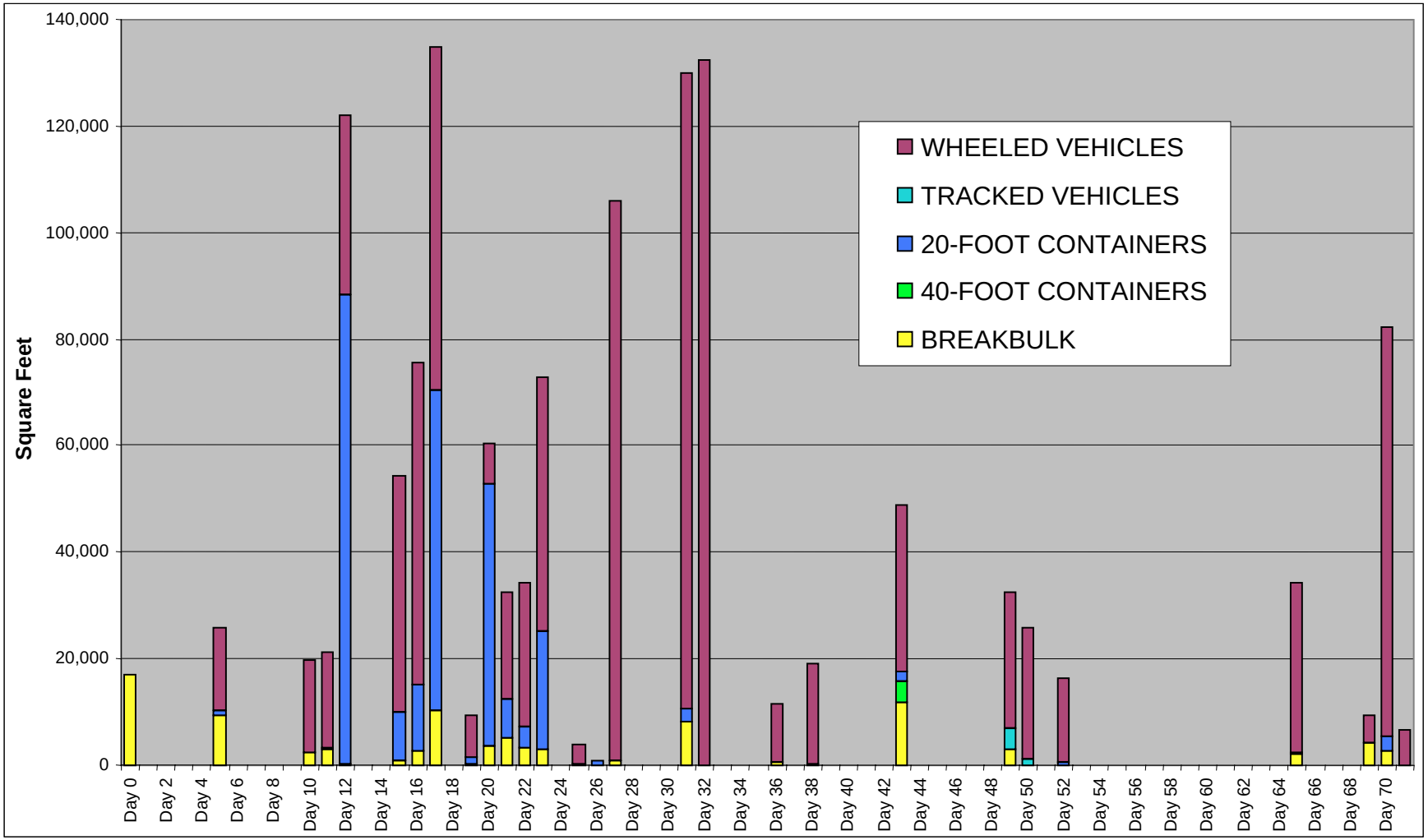


Figure C-8. Total Square Feet of Cargo Arriving at the Port of San Diego

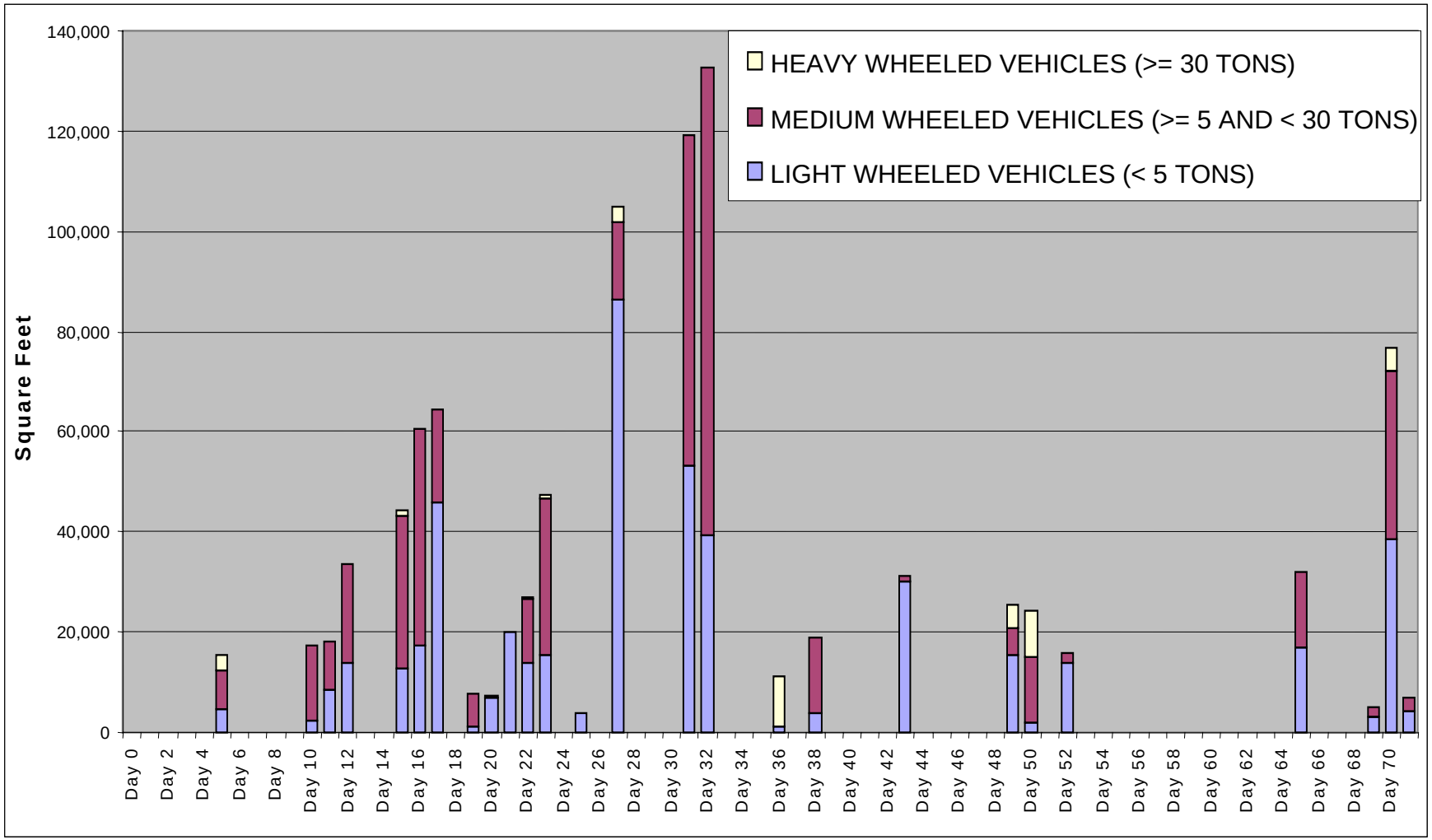


Figure C-9. Square Feet of Wheeled Vehicles Arriving at the Port of San Diego

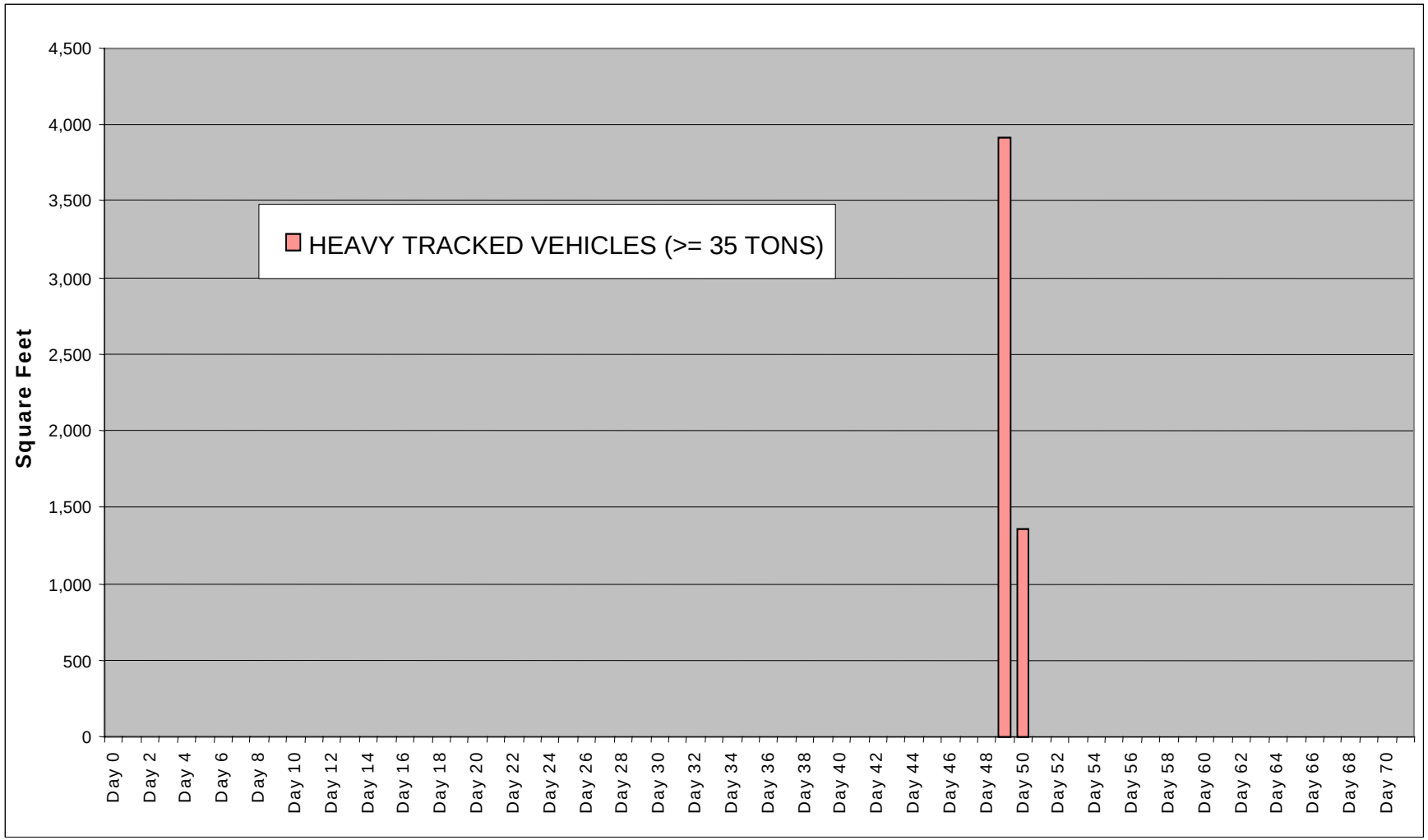


Figure C-10. Square Feet of Tracked Vehicles Arriving at the Port of San Diego

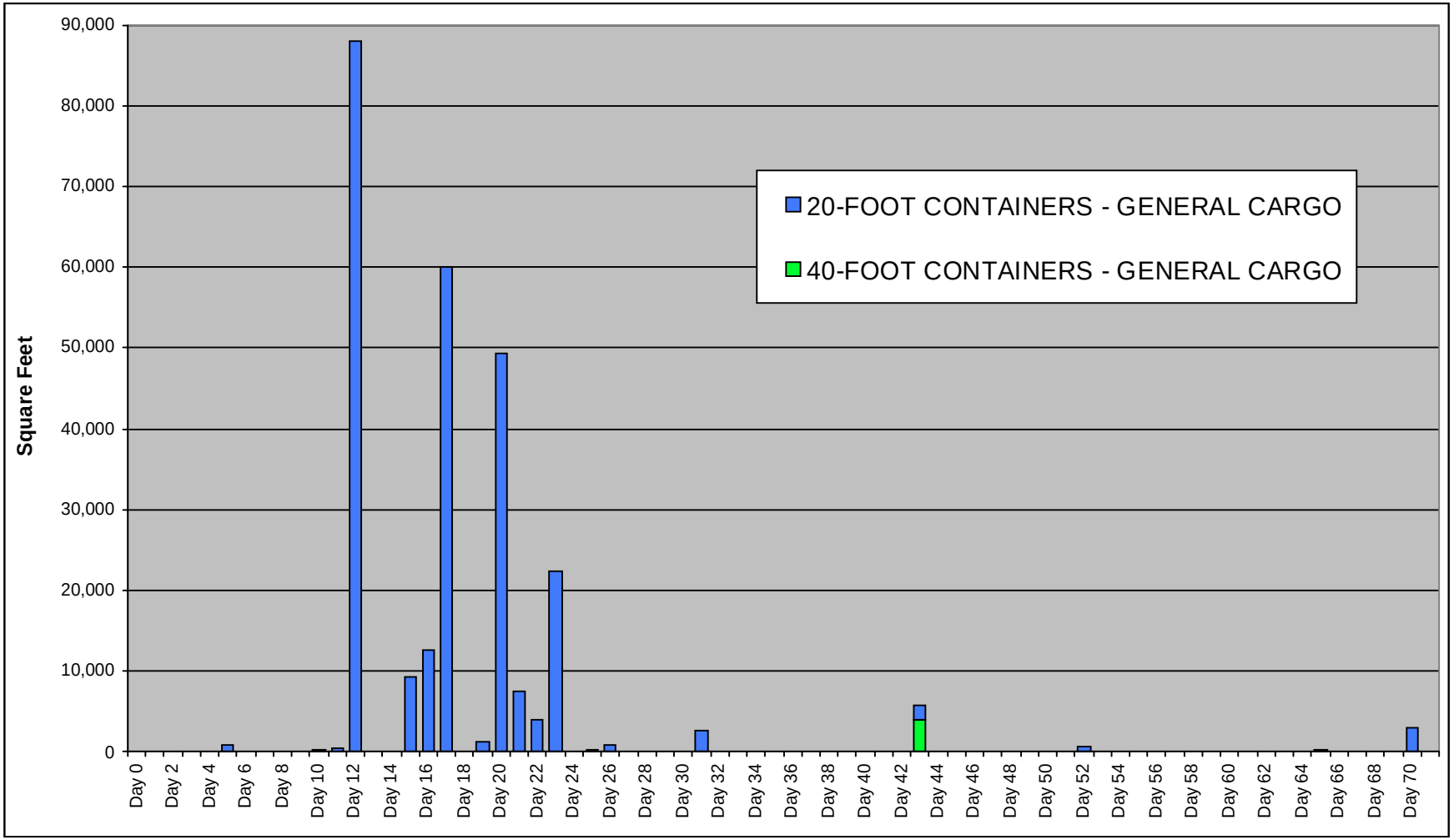


Figure C-11. Square Feet of Containers Arriving at the Port of San Diego

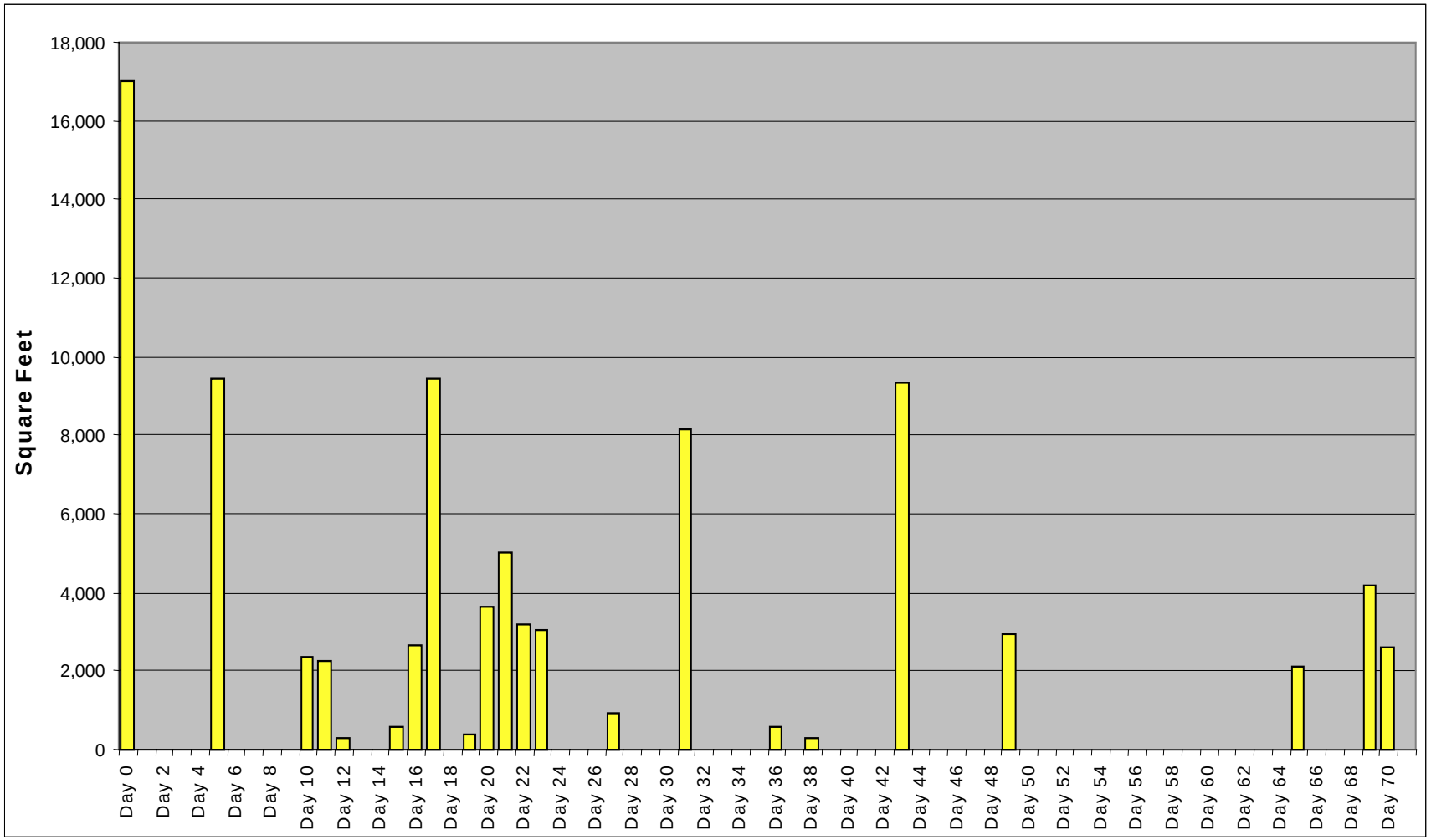


Figure C-12. Square Feet of Breakbulk Cargo Arriving at the Port of San Diego

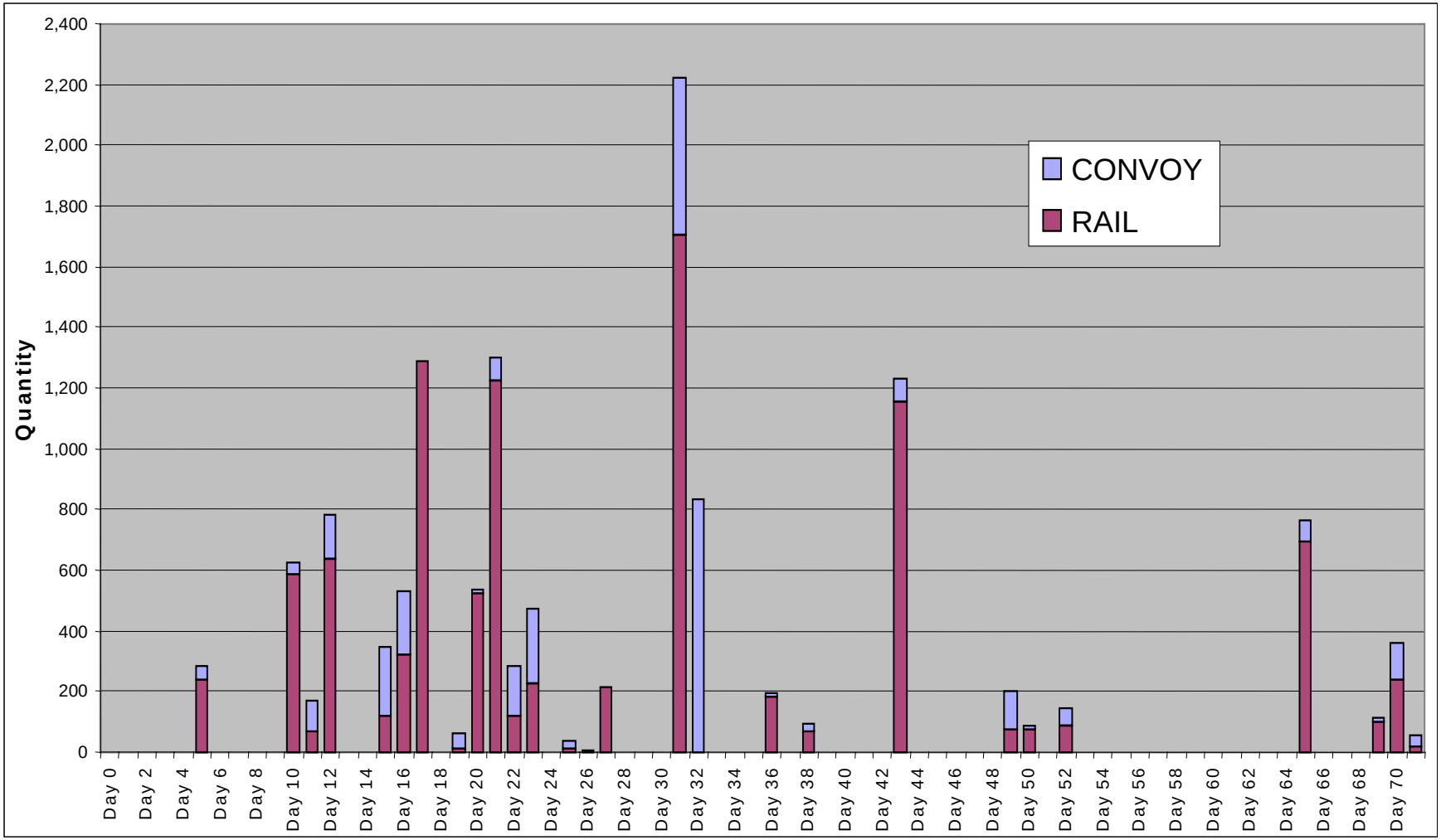


Figure C-13. Quantity of Items Arriving by Mode to the Port of San Diego

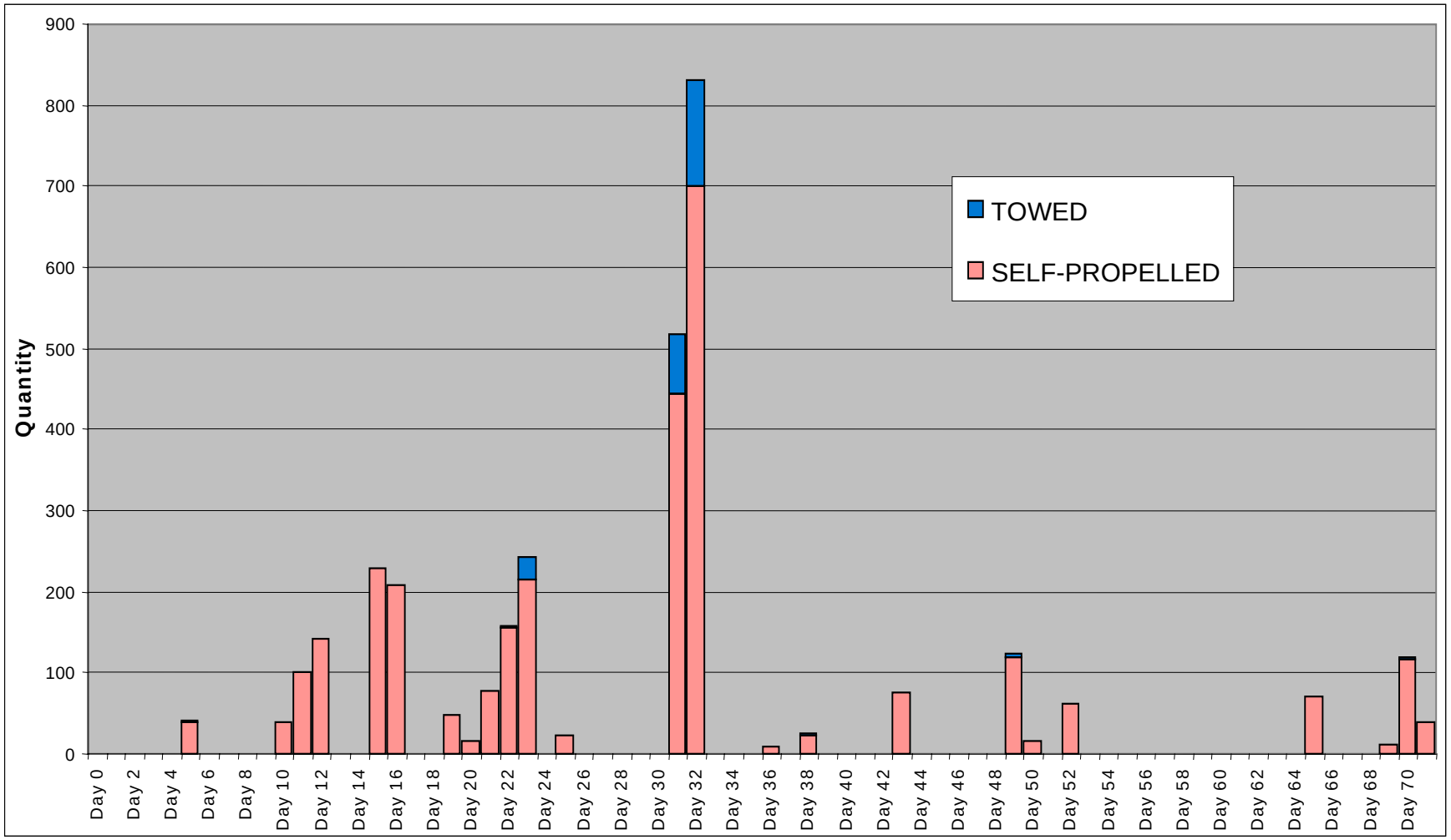


Figure C-14. Quantity of Wheeled Vehicles Convoying to the Port of San Diego

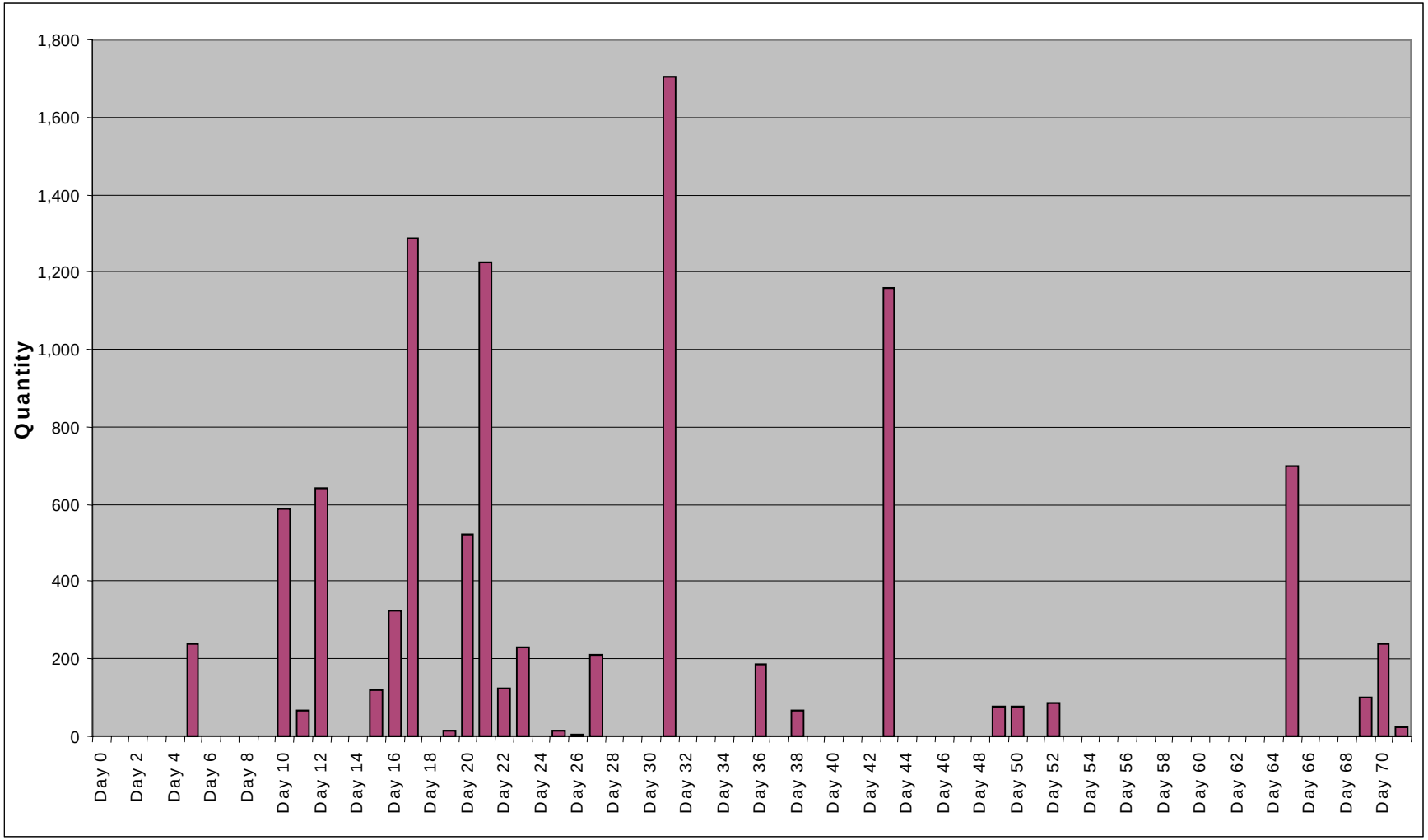


Figure C-15. Quantity of Items Arriving by Rail to the Port of San Diego

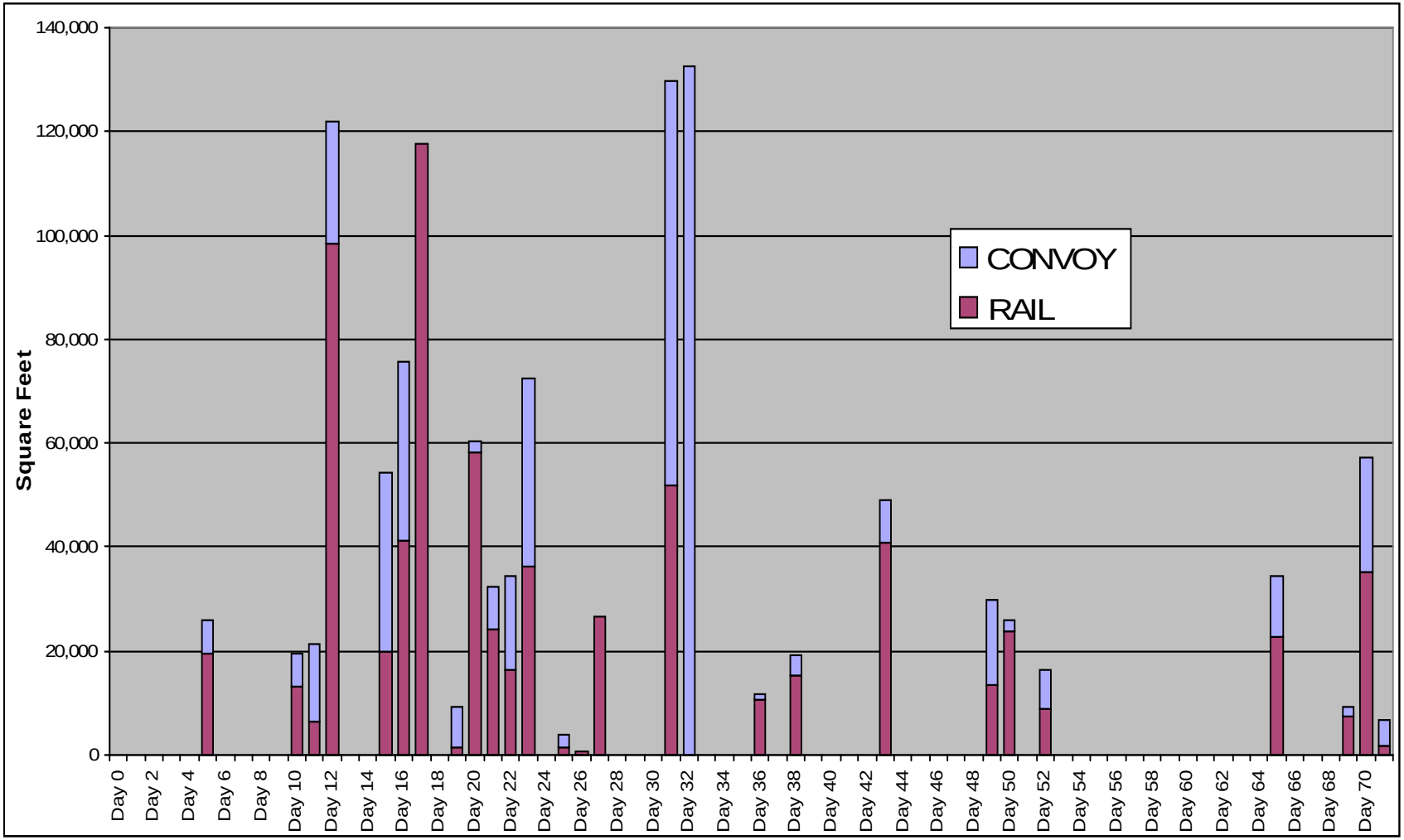


Figure C-16. Square Feet of Cargo Arriving by Mode to the Port of San Diego

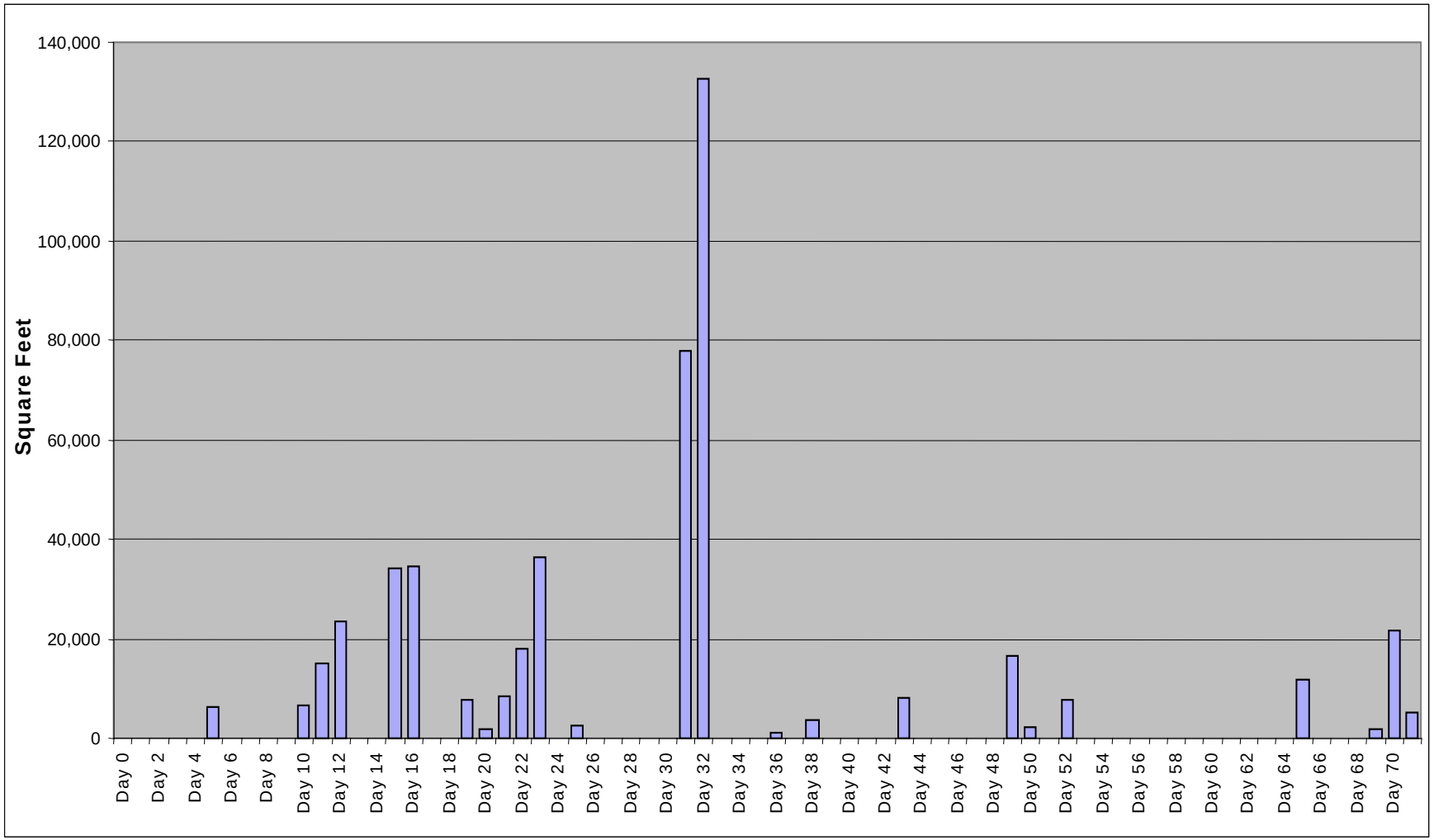


Figure C-17. Square Feet of Wheeled Vehicles Convoying to the Port of San Diego

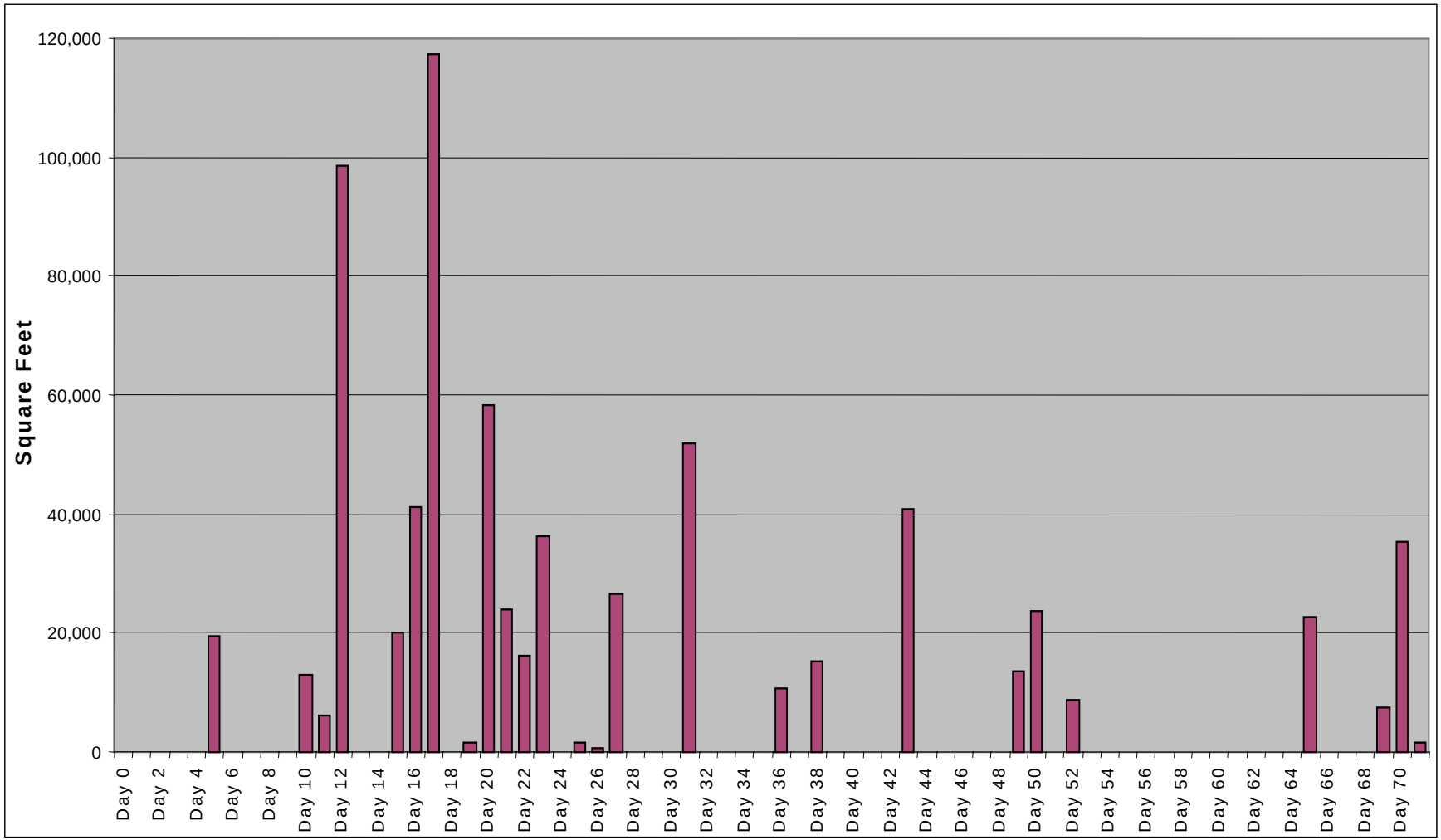


Figure C-18. Square Feet of Cargo Arriving by Rail to the Port of San Diego

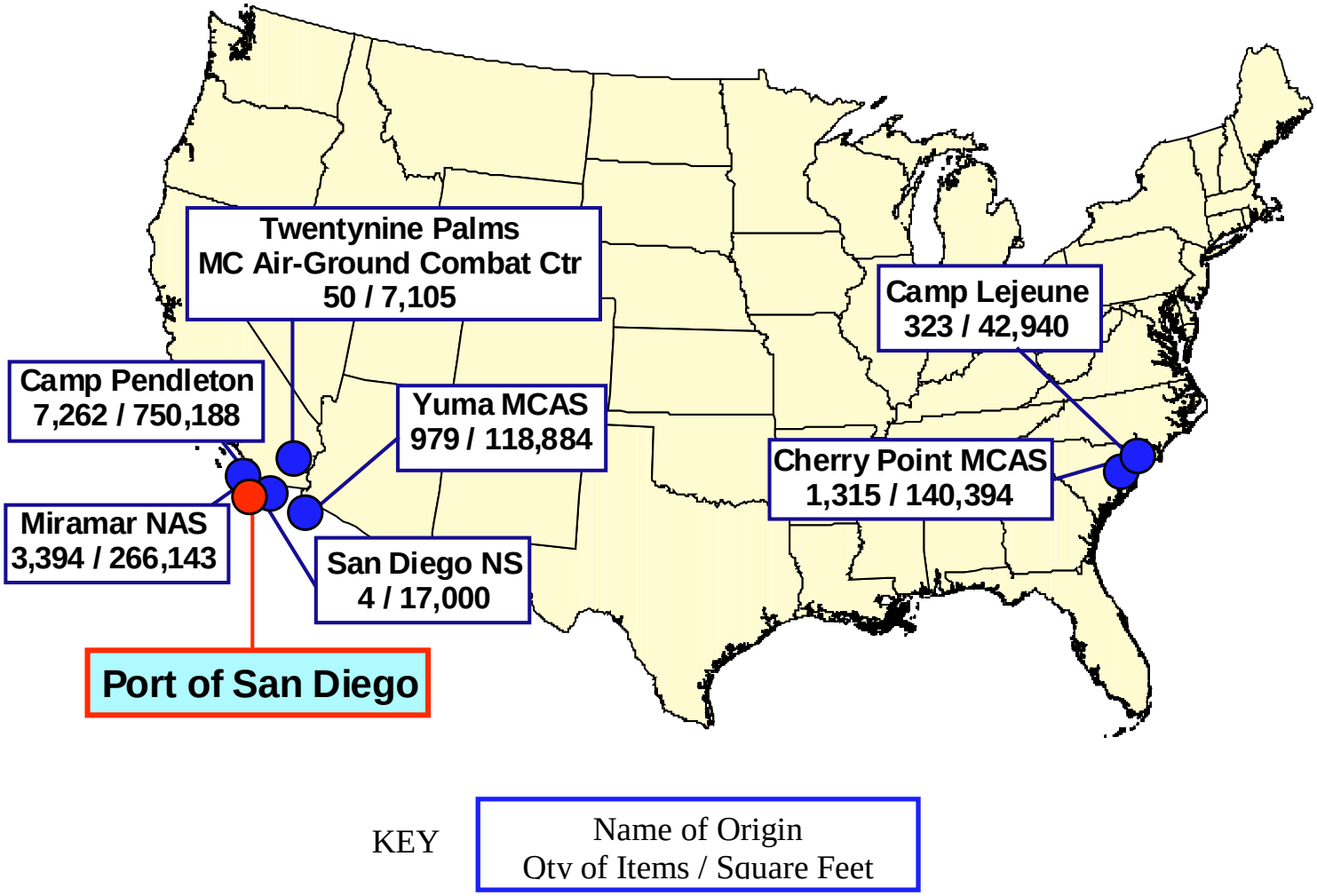


Figure C-19. Amount of Cargo Arriving at the Port of San Diego by Origin

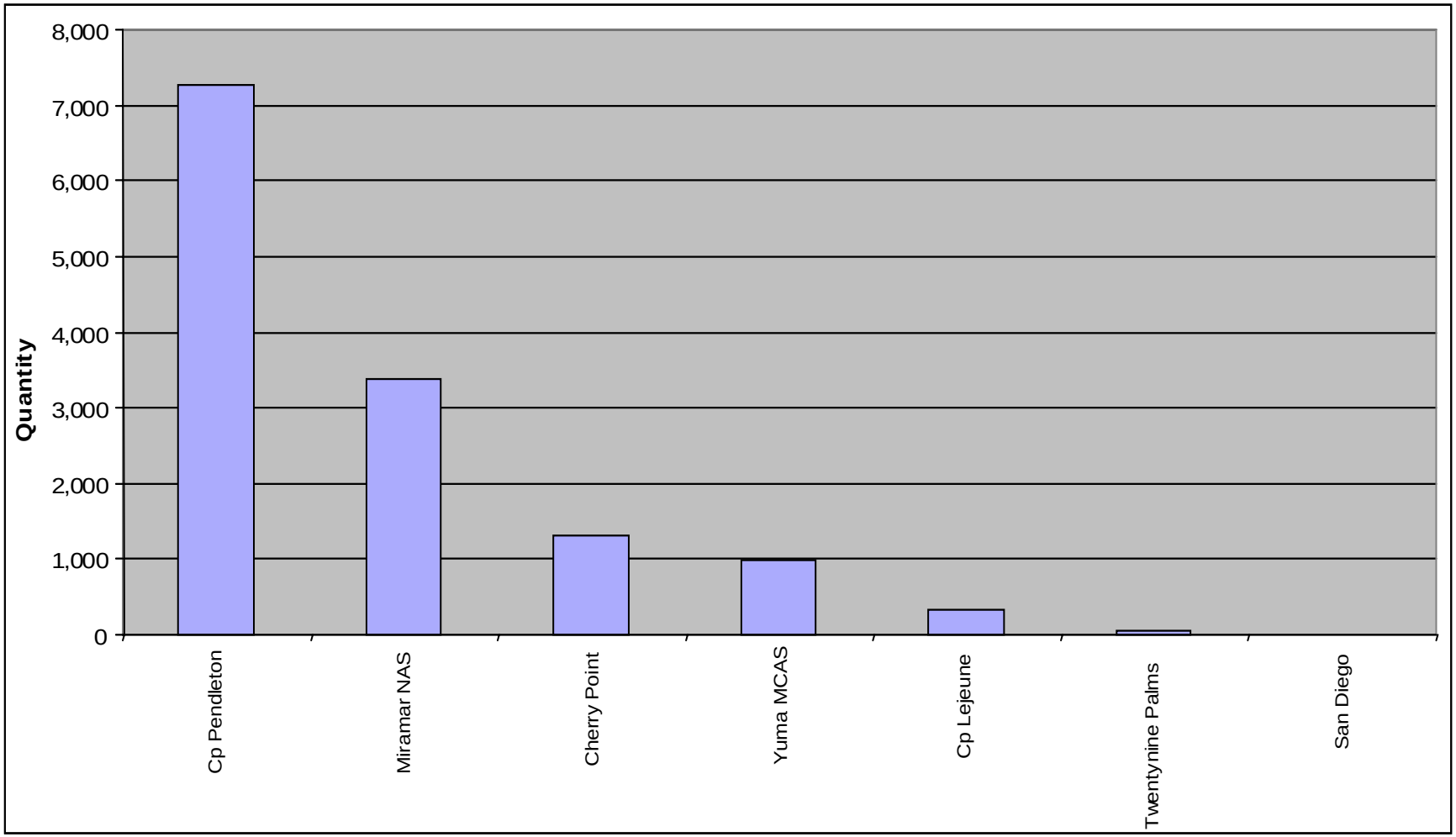


Figure C-20. Quantity of Items Arriving at the Port of San Diego by Origin

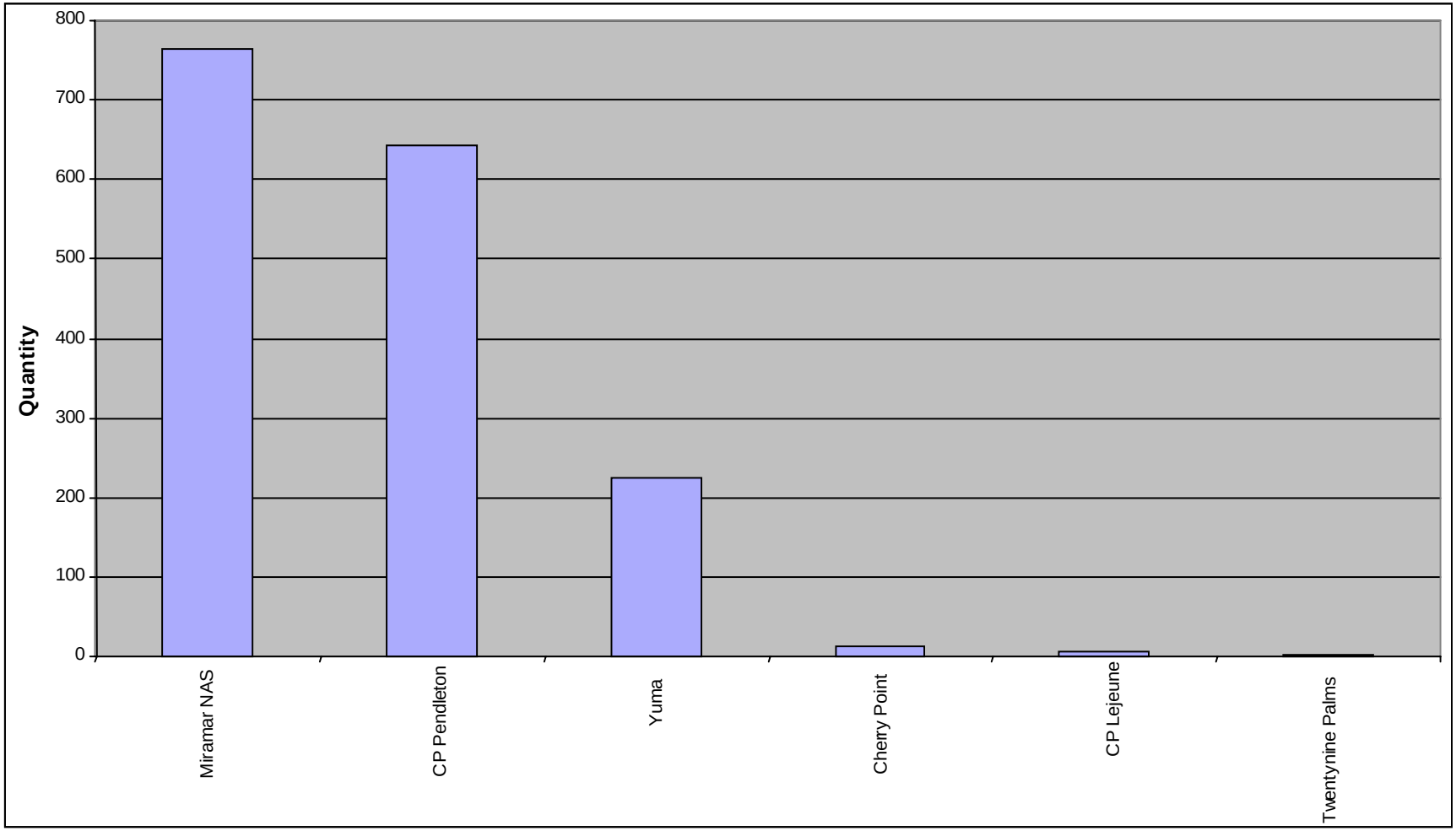


Figure C-21. Quantity of 20-Foot Containers Arriving at the Port of San Diego by Origin

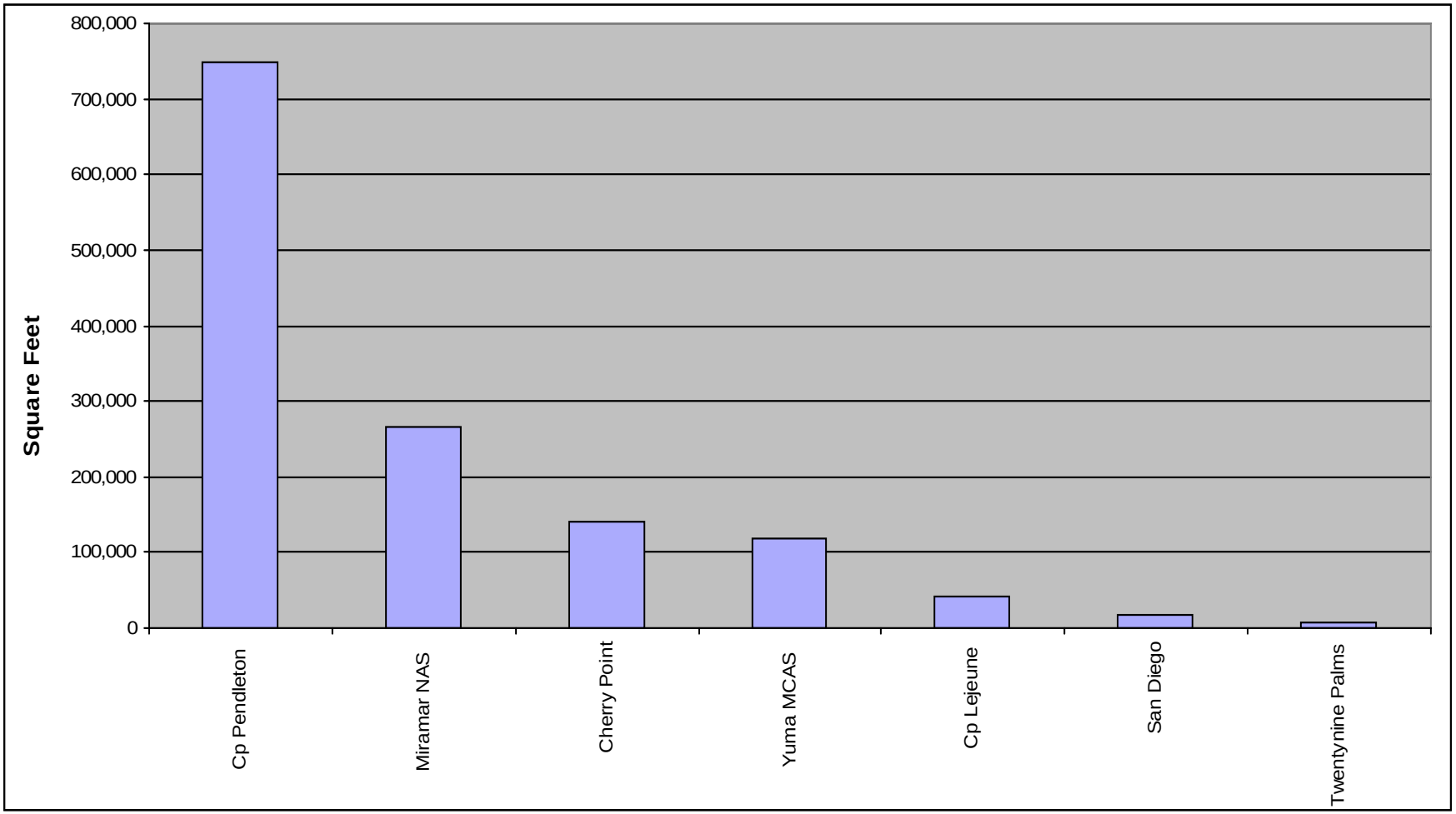


Figure C-22. Square Feet of Cargo Arriving at the Port of San Diego by Origin

APPENDIX D

PORT OF SAN DIEGO
Assault Follow On Echelon

The graphs in this appendix represent the cargo scheduled to arrive at the Port of San Diego for the Marine Corps Assault Follow on Echelon (AFOE) as outlined in the TPFDD. Cargo for the AFOE is scheduled to arrive at the port starting on day 15 and continuing through day 40.

Navy amphibious ships will most likely transport the assault echelon, but the requirement still needs to be taken into consideration as the AFOE may compete for resources at the port. Graphs for cargo scheduled to be transported via MSC ship from the Port of San Diego are provided in Appendix C.

The Port of San Diego is scheduled to receive cargo from 11 separate origins. The cargo consists entirely of unit equipment.

A map of the origin locations is provided in Figure D-1. The quantity of railcars arriving at the Port of San Diego is provided in Figure D-2. Figures D-3 through D-6 show the quantity of items by category arriving at the port. Figures D-7 through D-10 show the same information in terms of square footage.

The breakbulk spike on C+38 shown in Figure D-6 consists mainly of small containers (57"x96"x82"), repair kits, and chemical suits all coded as non-containerizable.

Figures D-11 through D-13 provide a breakdown of the quantity of items arriving at the port according to the mode of transportation (convoy and rail). Similarly, Figures D-14 through D-16 reflect the same information presented in terms of square footage.

Figure D-17 shows the amount of cargo in terms of quantity and square feet for each origin scheduled in the TPFDD. The bar graph in Figure D-18 provides the total quantity of items for each origin. The quantity of containers arriving at the port from each origin is provided in Figure D-19. The largest container requirement will be arriving at the port from Camp Pendleton, California. Figure D-20 shows the square feet of cargo by origin.

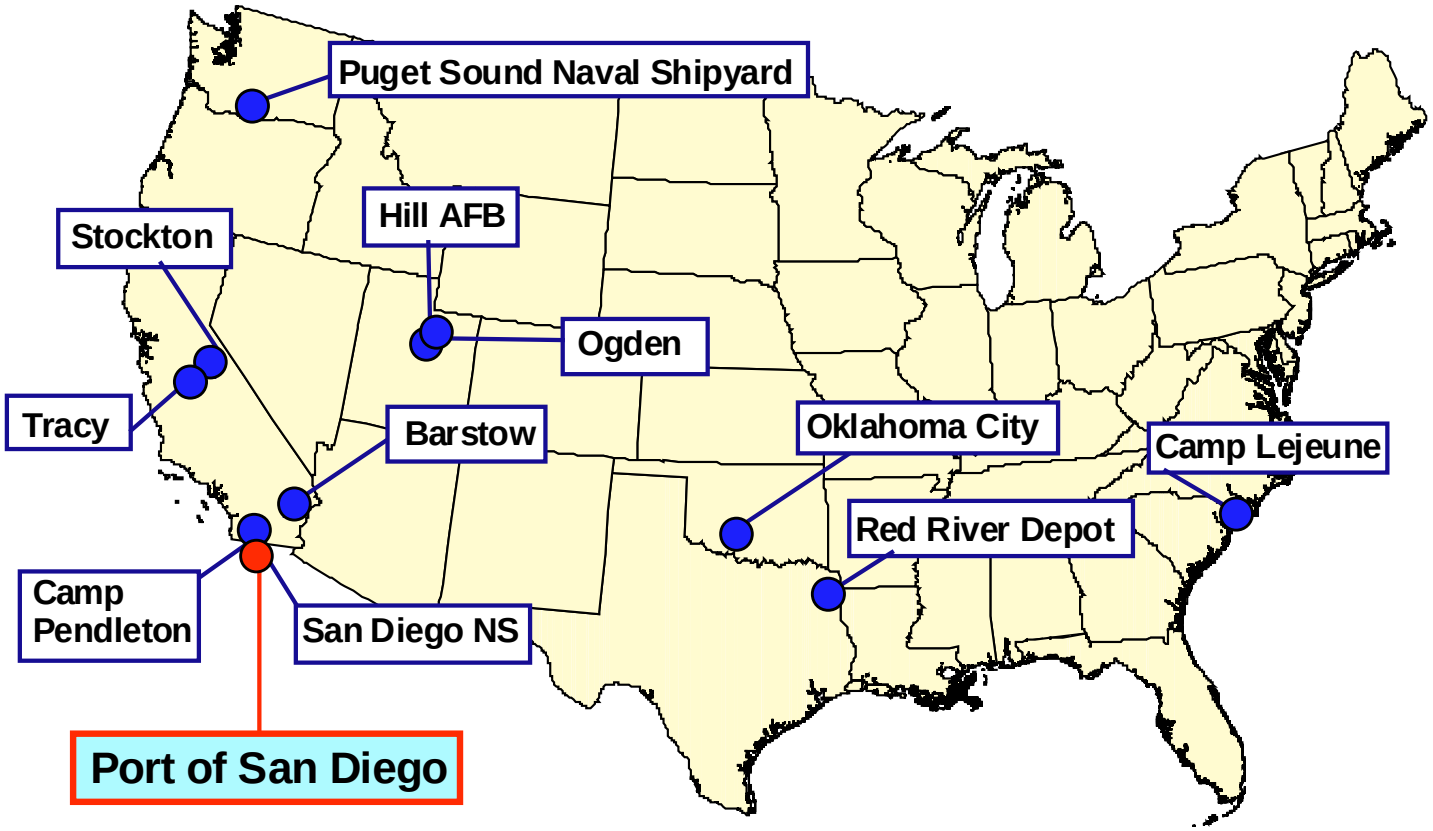


Figure D-1. Cargo Arrives at the Port of San Diego from Seven Origins (Assault Follow on Echelon)

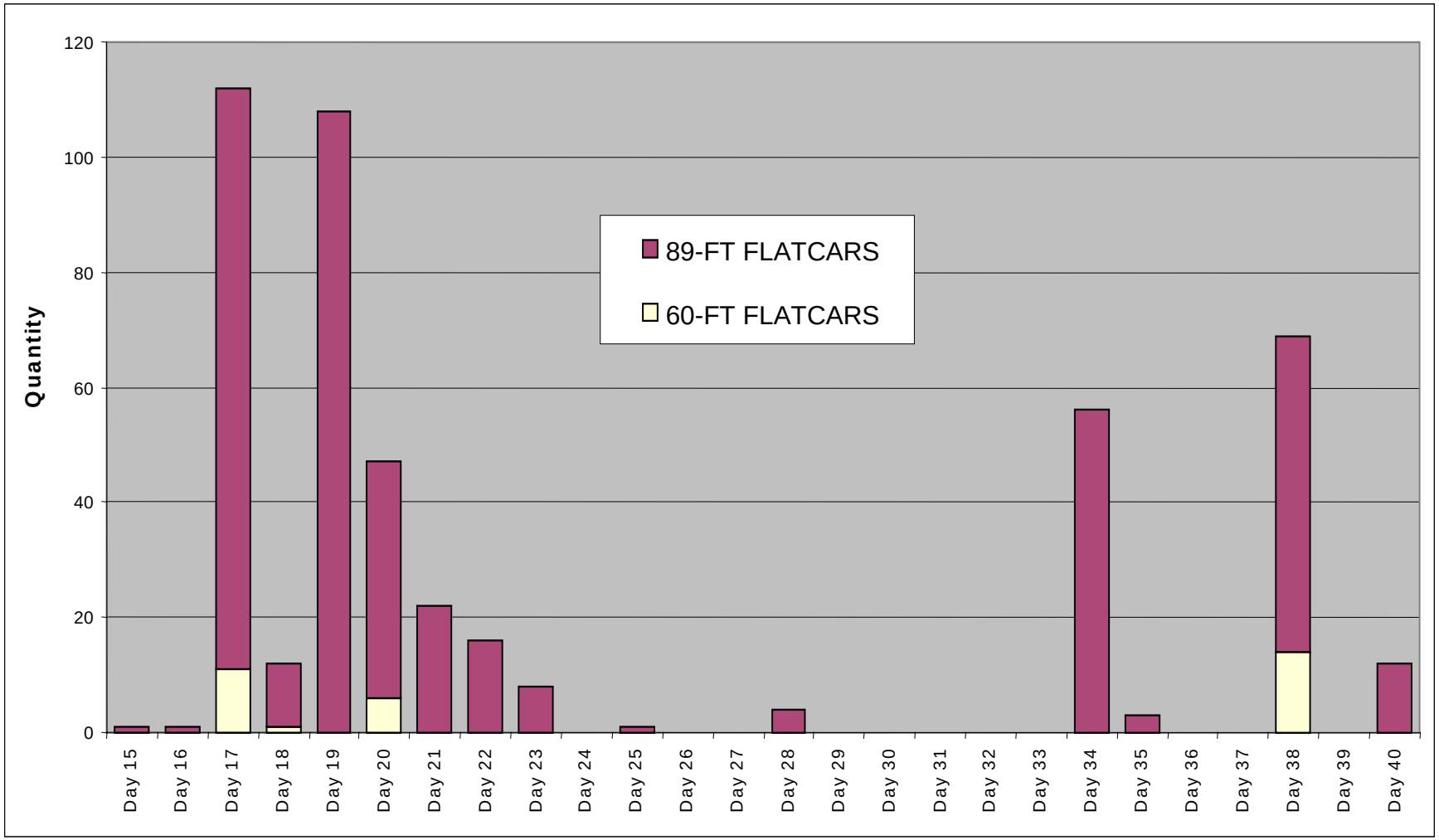


Figure D-2. Quantity of Railcars Arriving at the Port of San Diego (AFOE)

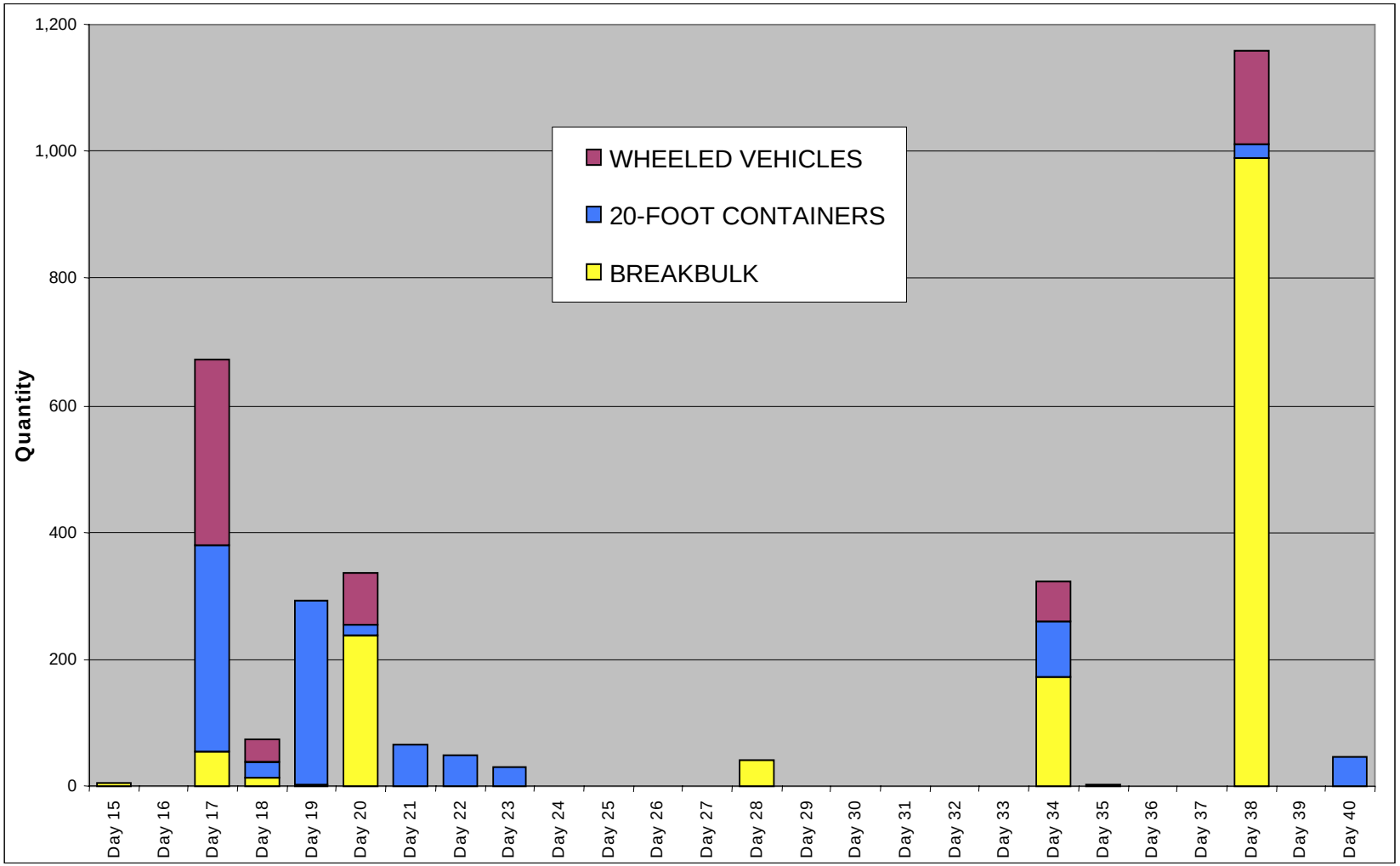


Figure D-3. Total Quantity of Items Arriving at the Port of San Diego (AFOE)

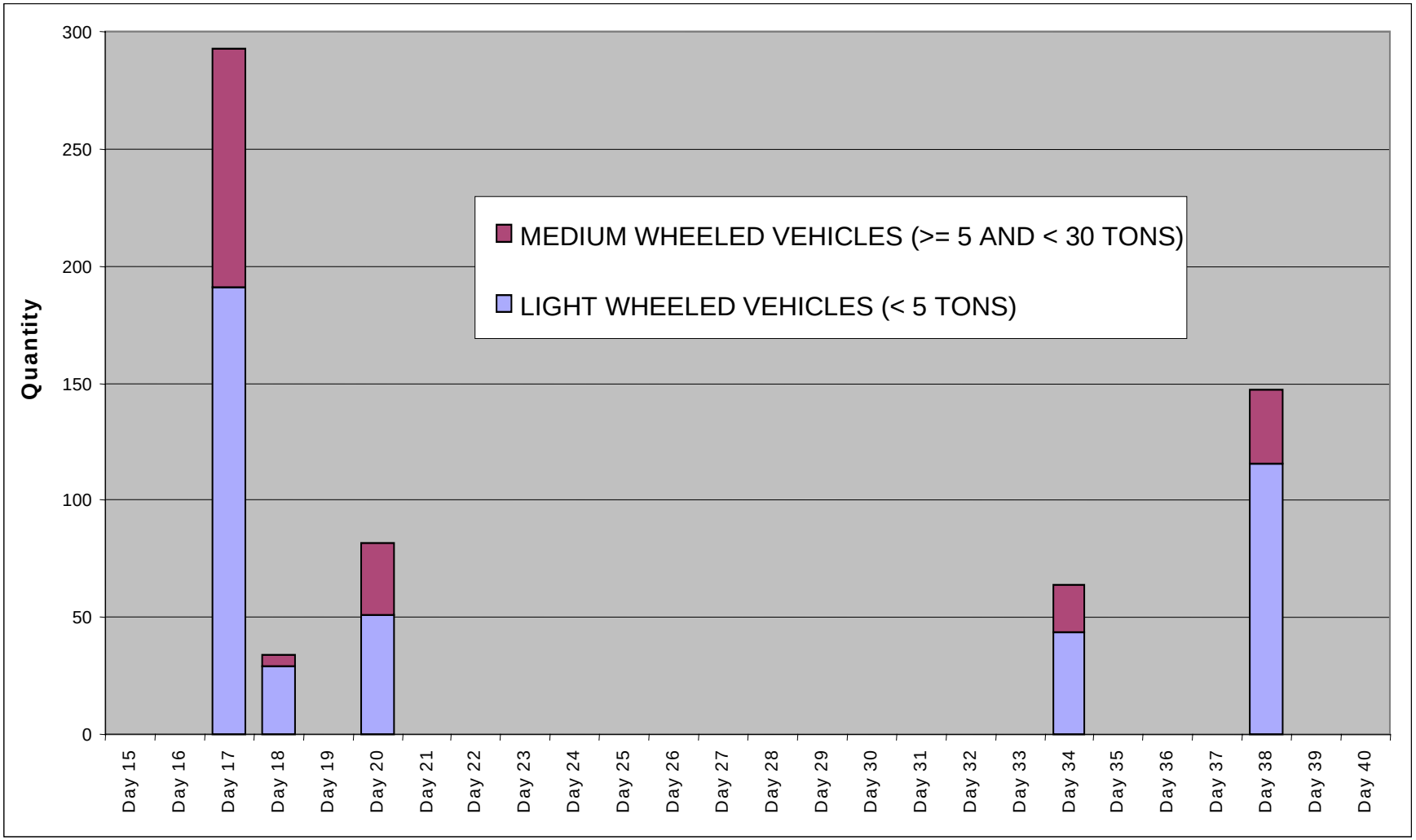


Figure D-4. Quantity of Wheeled Vehicles Arriving at the Port of San Diego (AFOE)

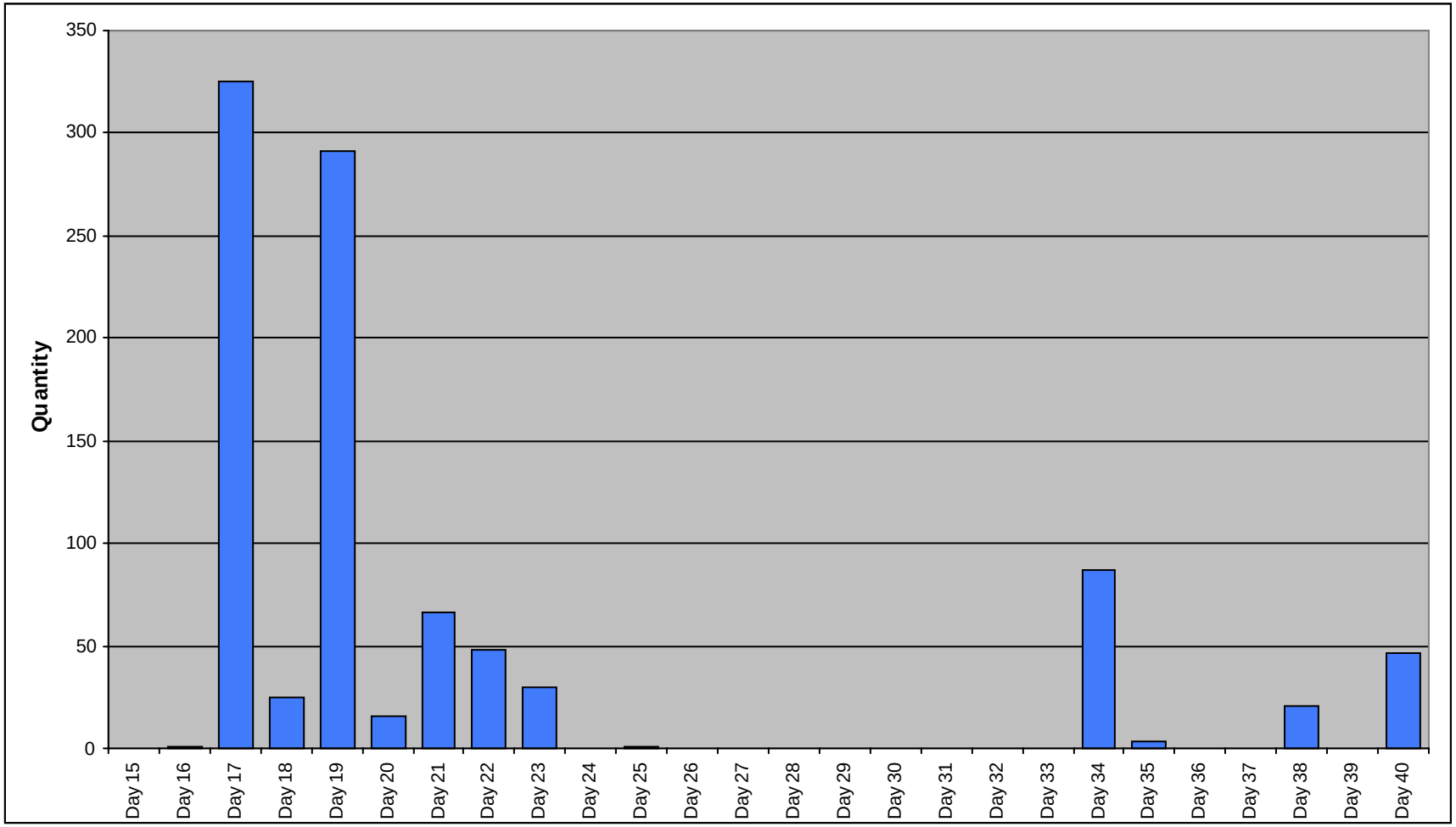


Figure D-5. Quantity of Containers Arriving at the Port of San Diego (AFOE)

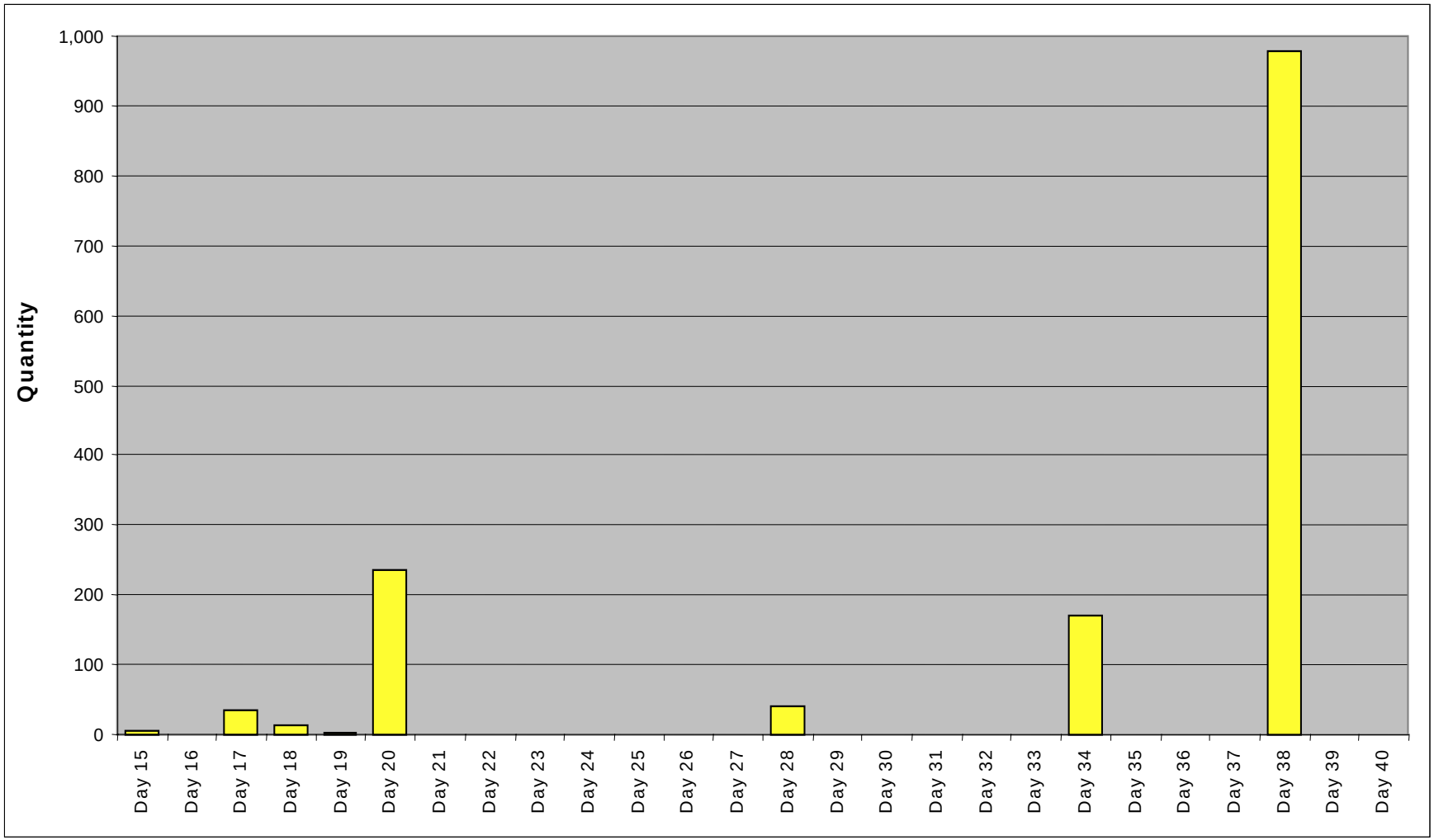


Figure D-6. Quantity of Breakbulk Items Arriving at the Port of San Diego (AFOE)

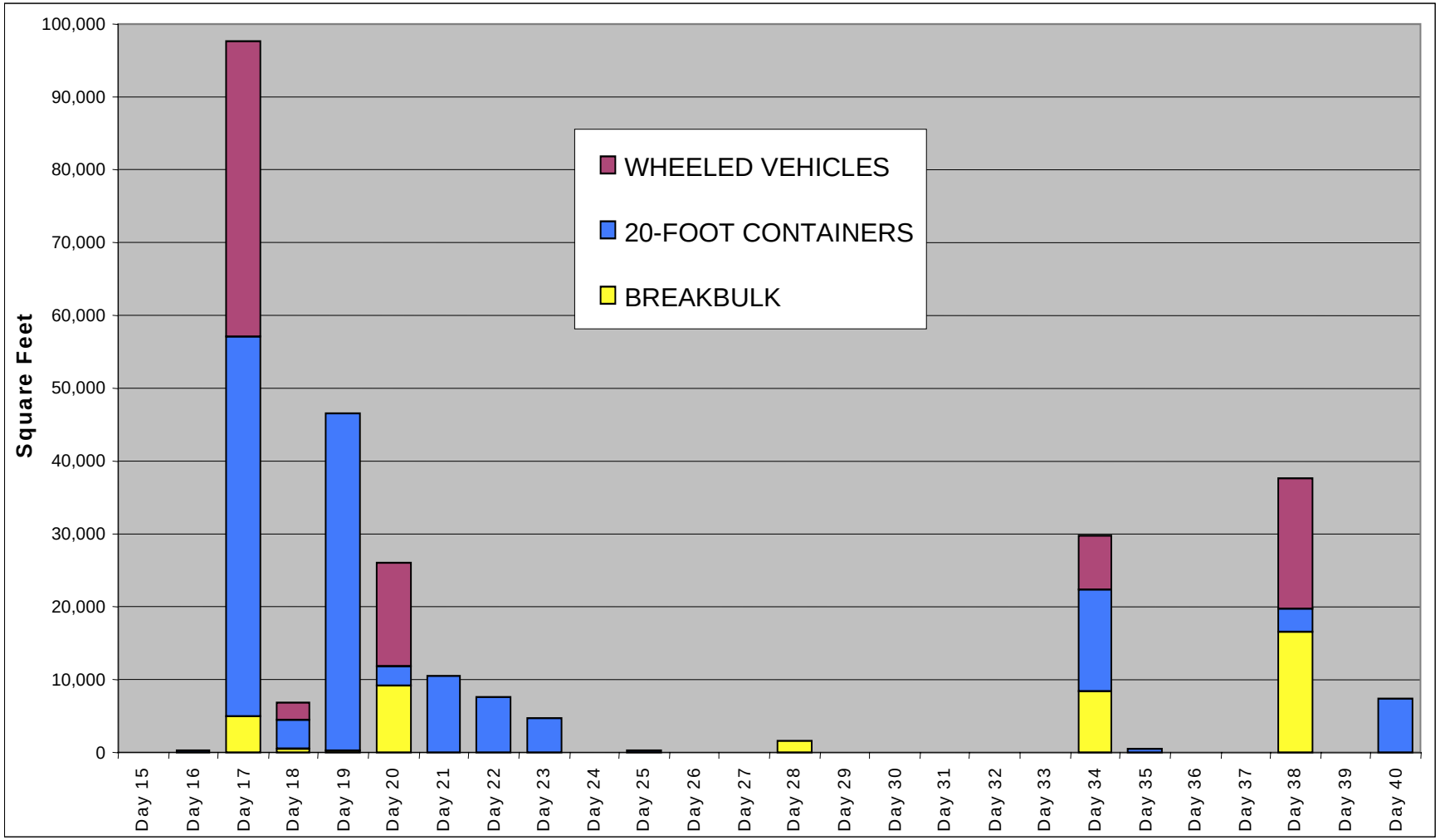


Figure D-7. Total Square Feet of Cargo Arriving at the Port of San Diego (AFOE)

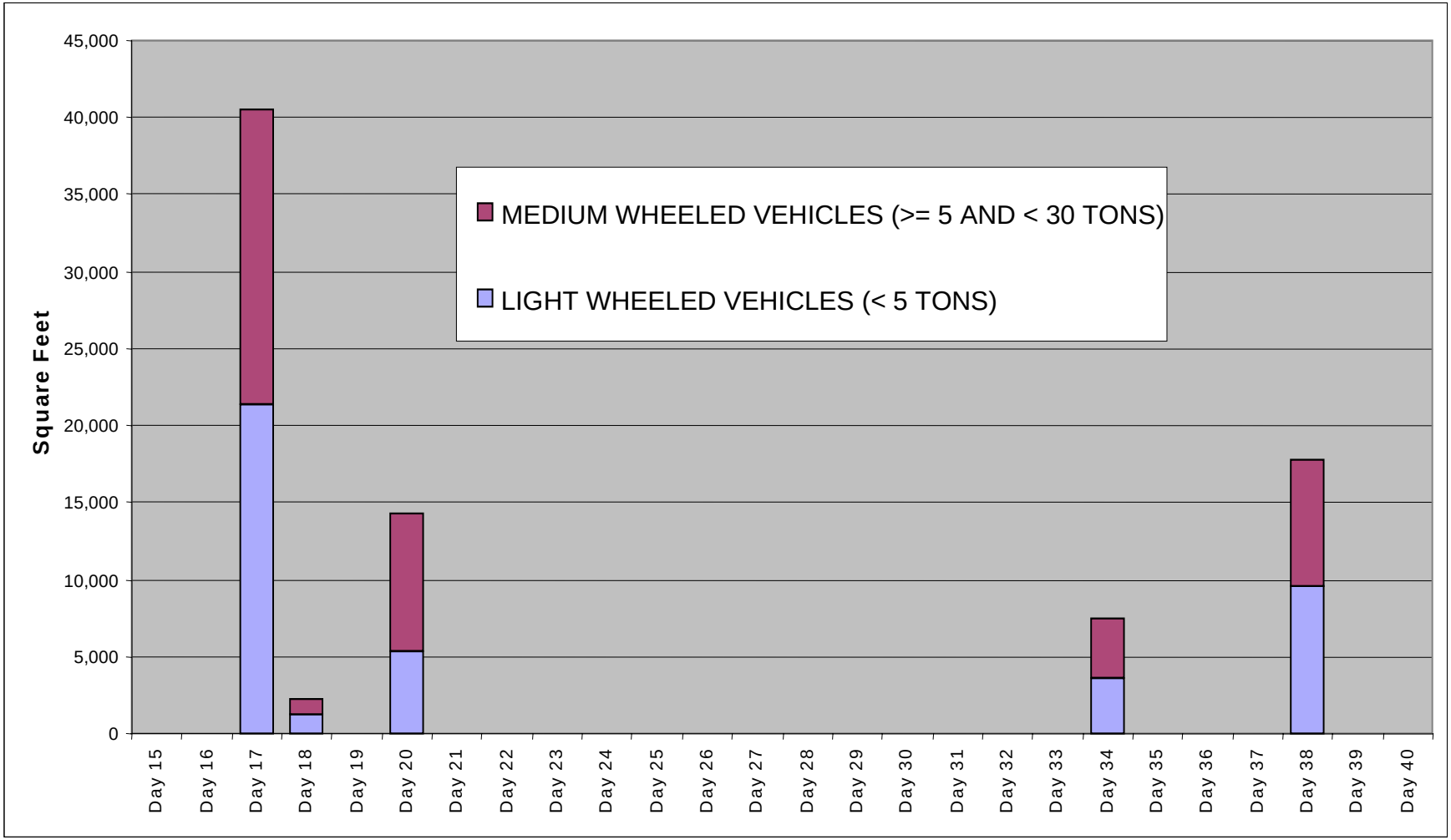


Figure D-8. Square Feet of Wheeled Vehicles Arriving at the Port of San Diego (AFOE)

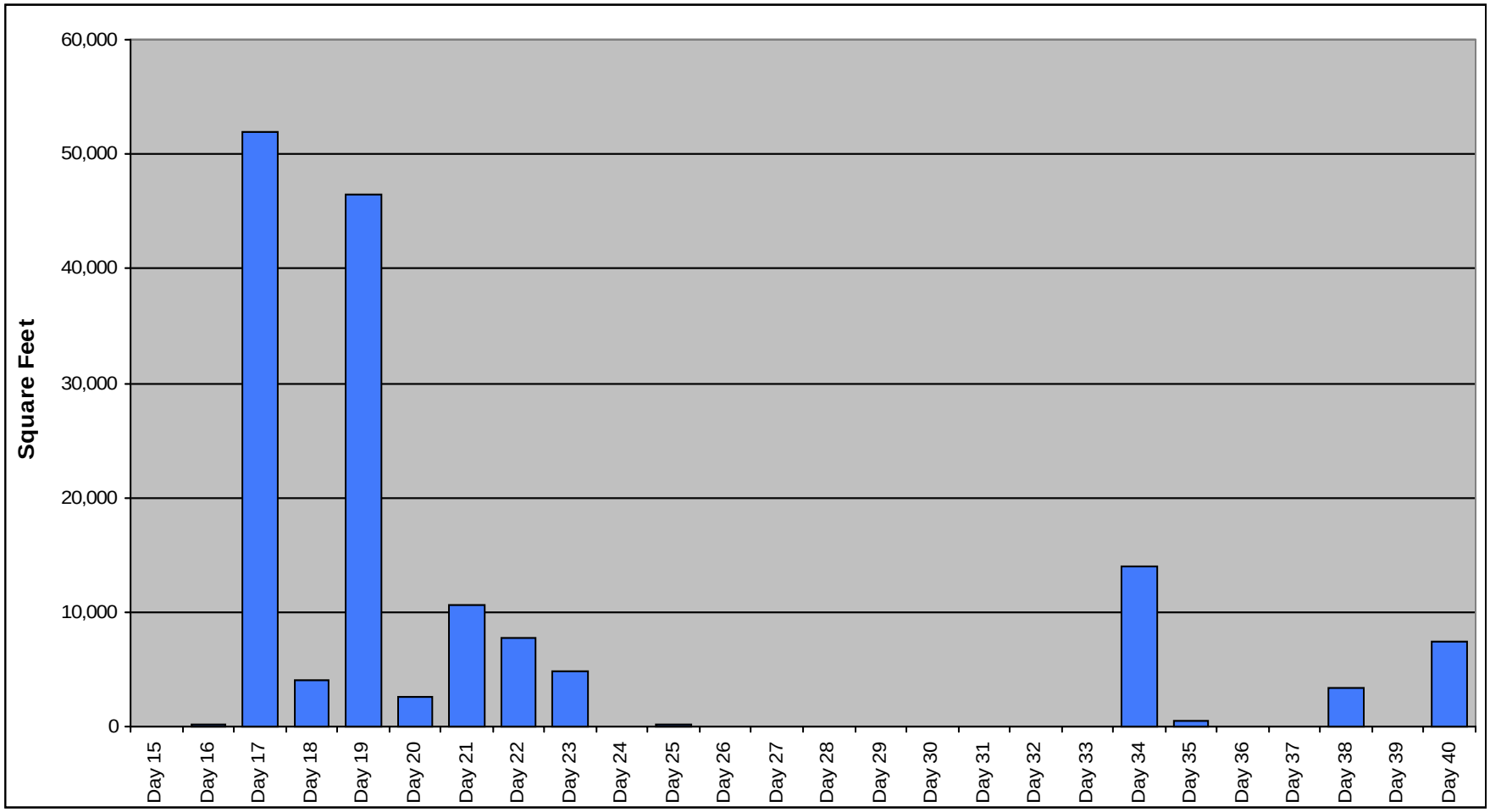


Figure D-9. Square Feet of Containers Arriving at the Port of San Diego (AFOE)

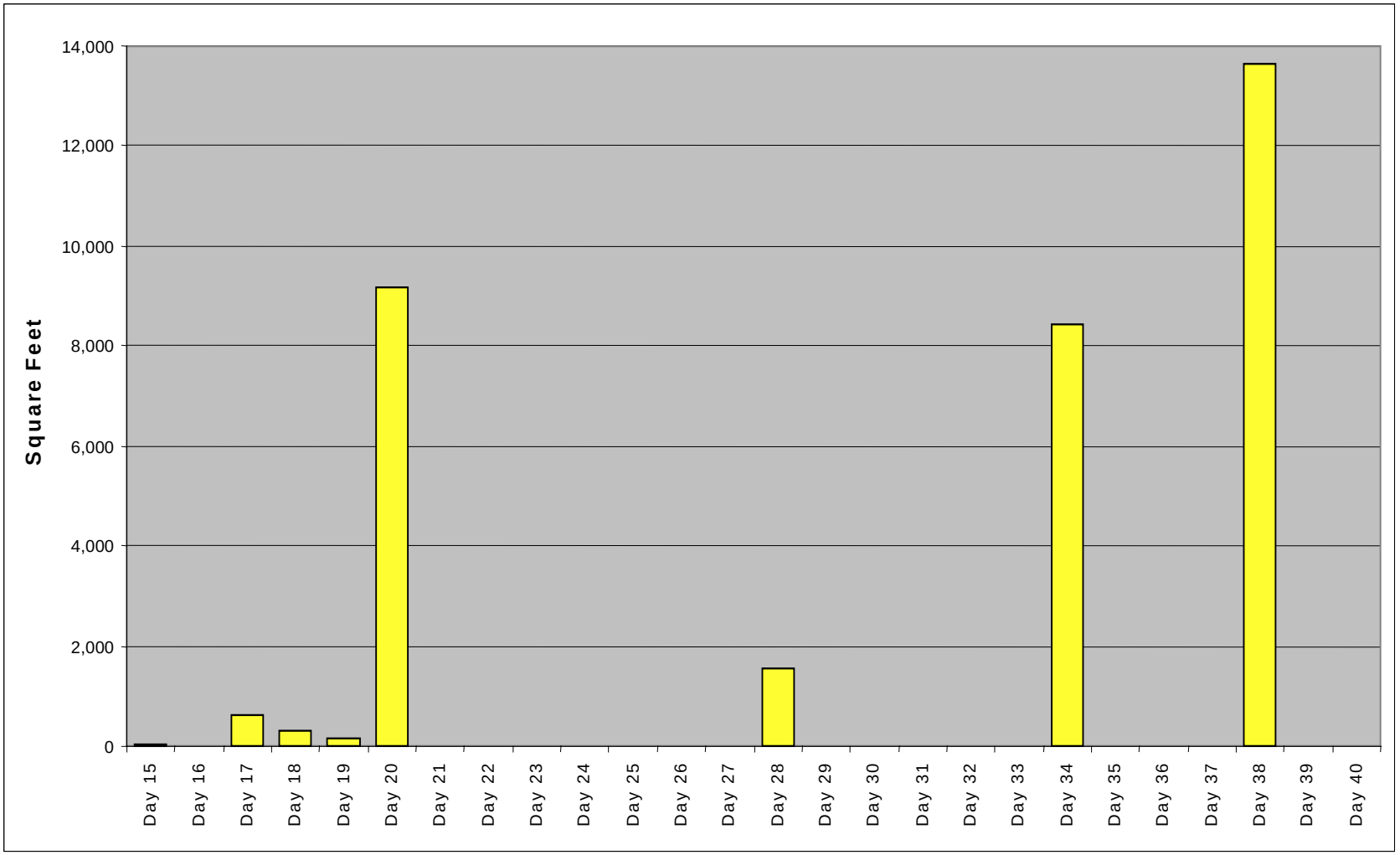


Figure D-10. Square Feet of Breakbulk Cargo Arriving at the Port of San Diego (AFOE)

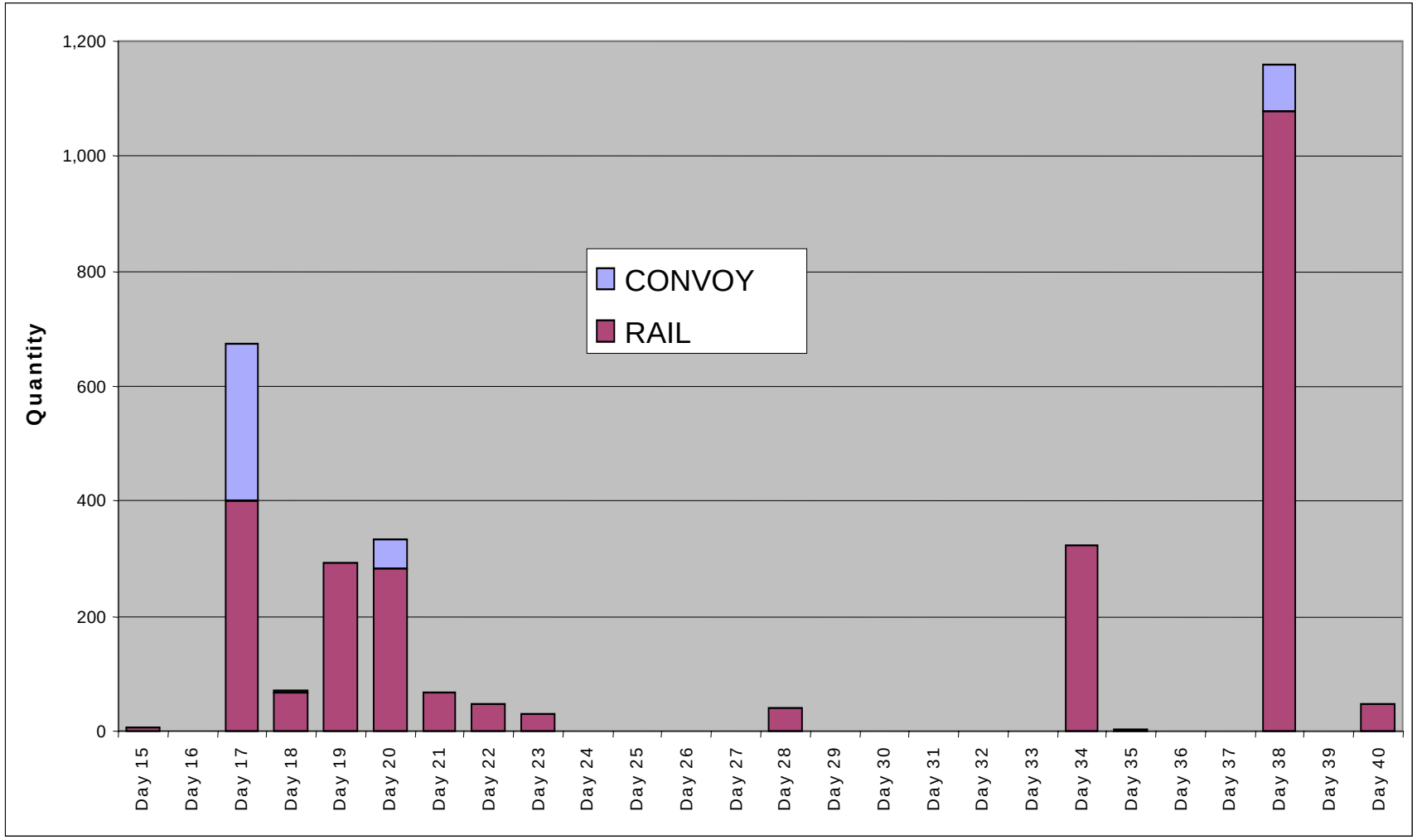


Figure D-11. Quantity of Items Arriving by Mode to the Port of San Diego (AFOE)

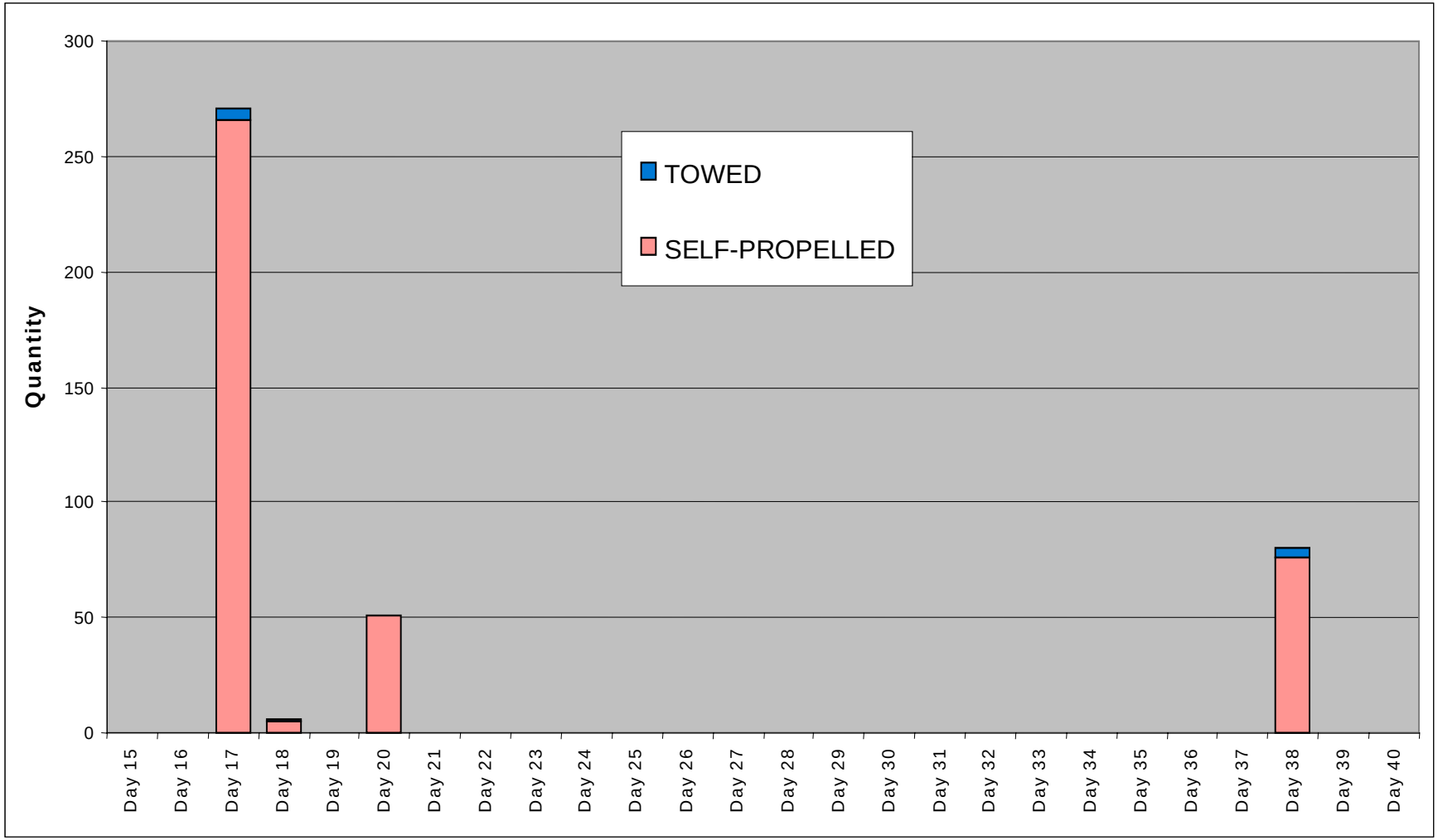


Figure D-12. Quantity of Wheeled Vehicles Convoying to the Port of San Diego (AFOE)

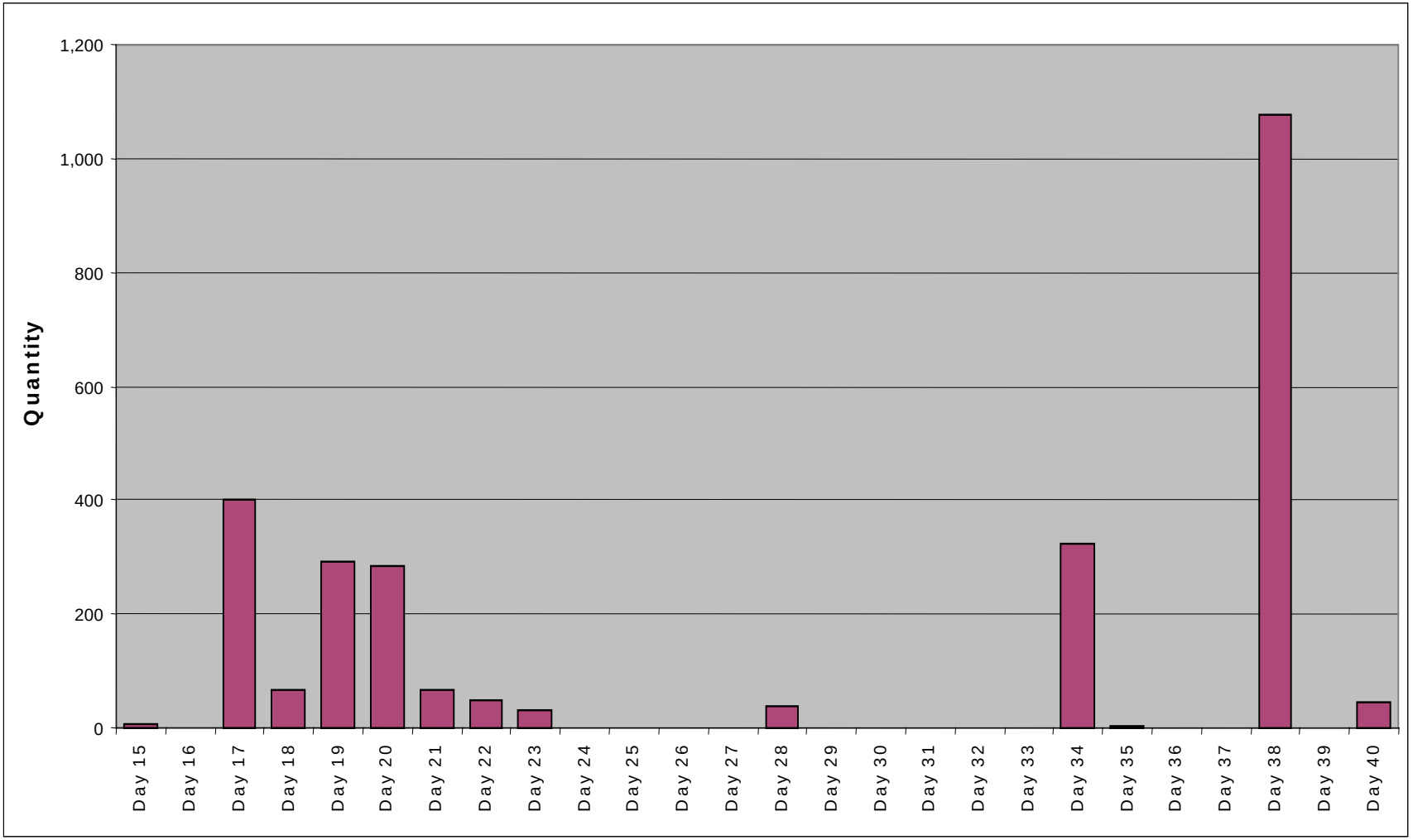


Figure D-13. Quantity of Items Arriving by Rail to the Port of San Diego (AFOE)

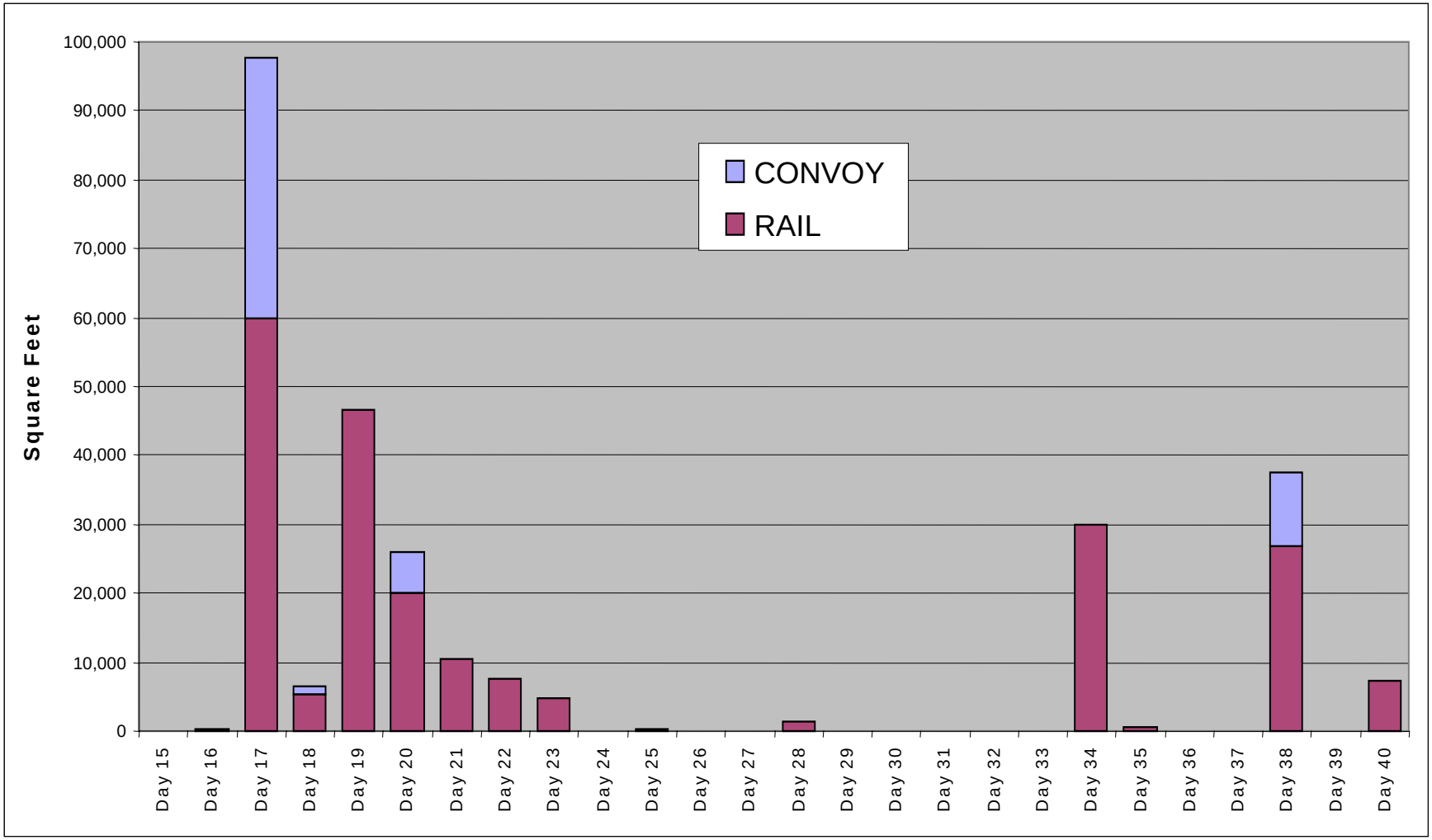


Figure D-14. Square Feet of Cargo Arriving by Mode to the Port of San Diego (AFOE)

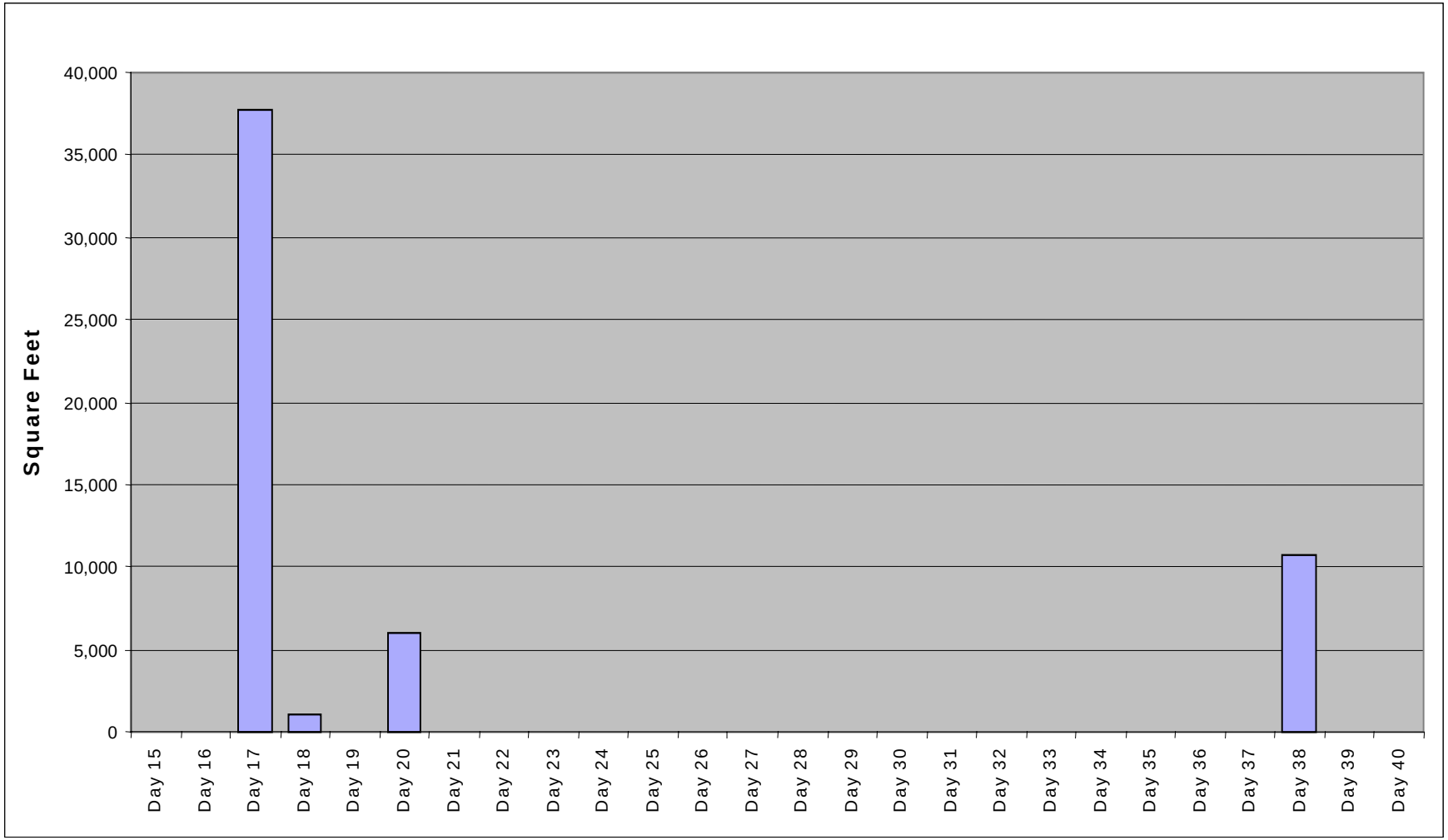


Figure D-15. Square Feet of Wheeled Vehicles Convoying to the Port of San Diego (AFOE)

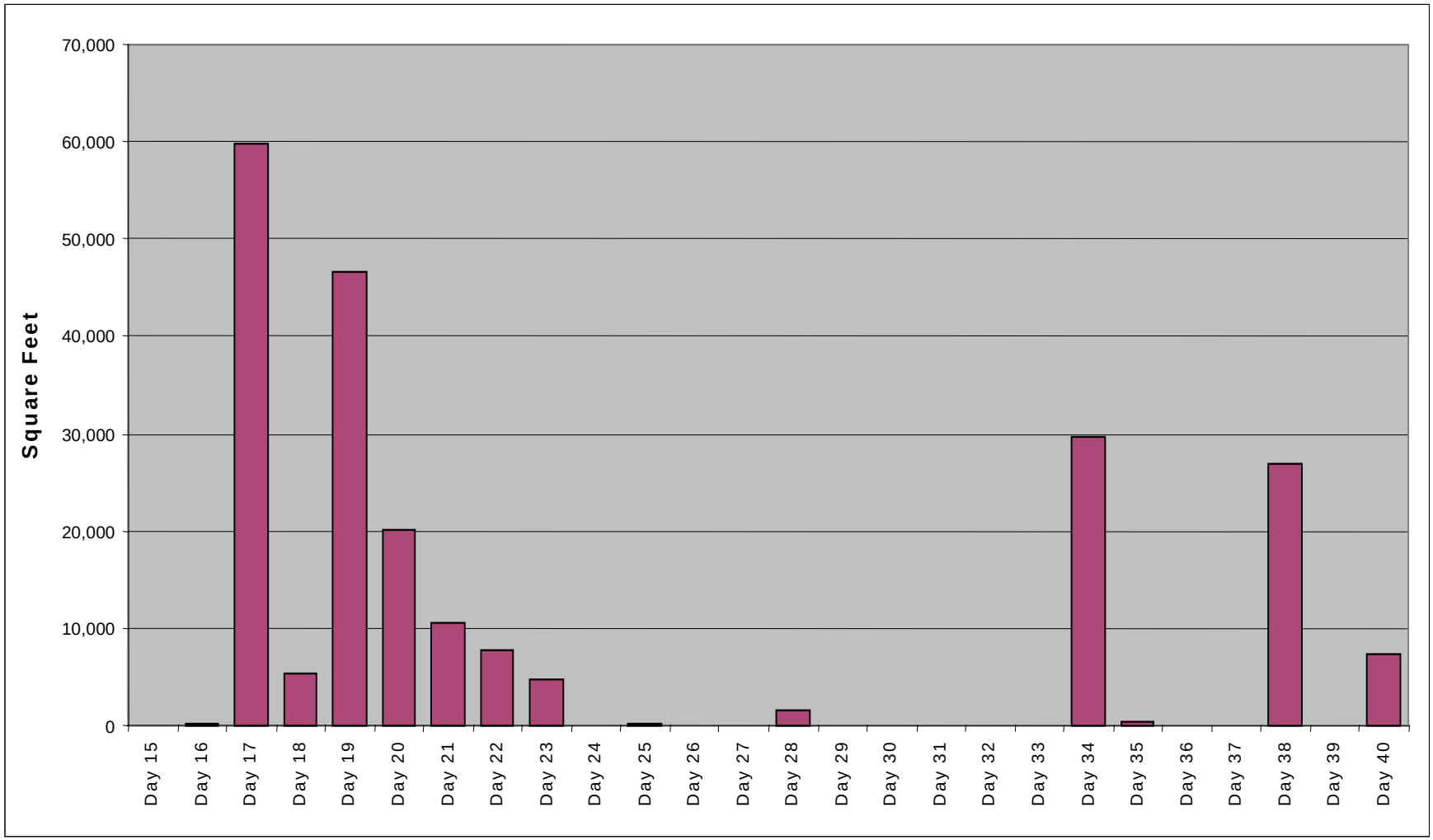


Figure D-16. Square Feet of Cargo Arriving by Rail to the Port of San Diego (AFOE)

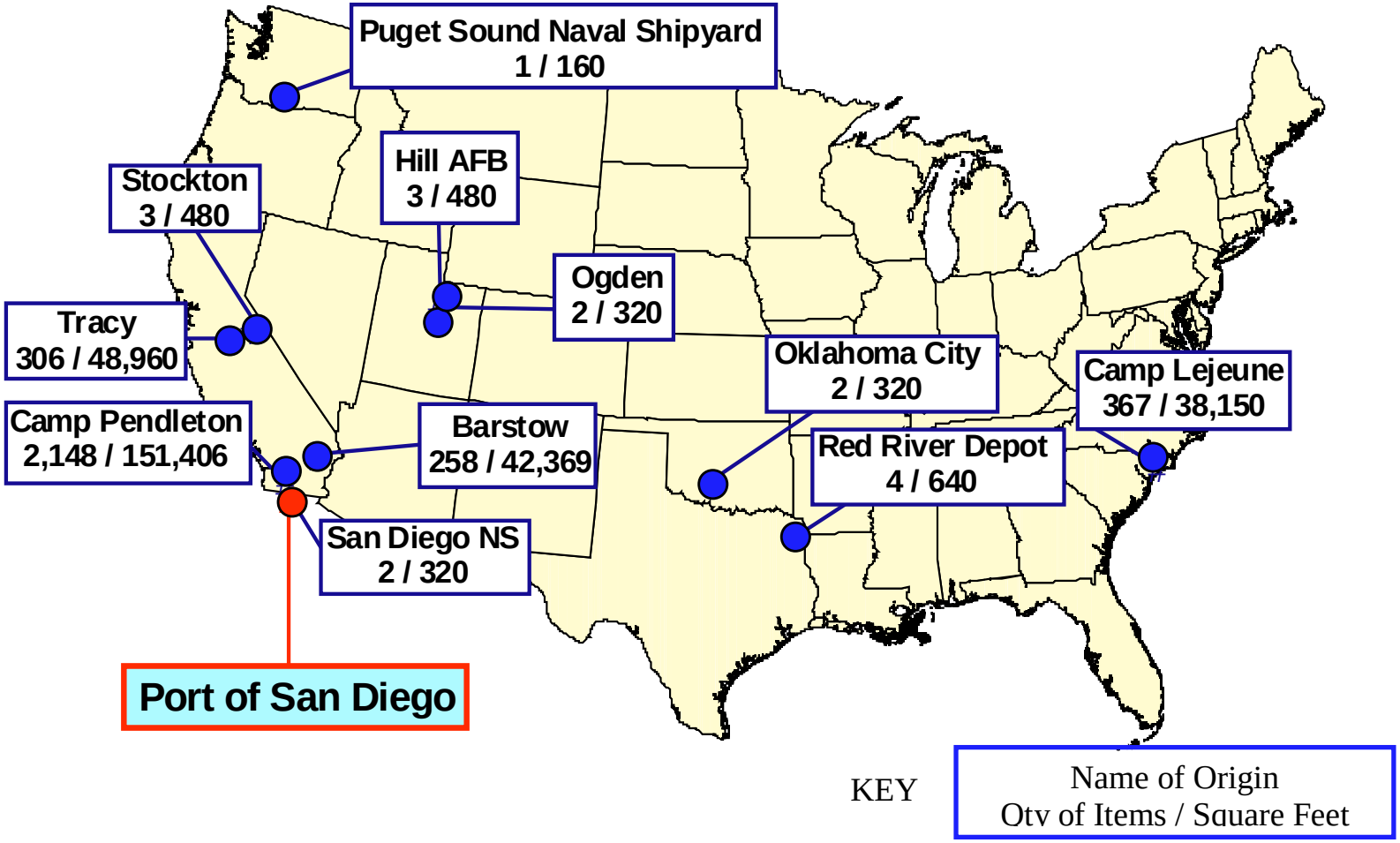


Figure D-17. Cargo Arrives at the Port of San Diego by Origin (Assault Follow on Echelon)

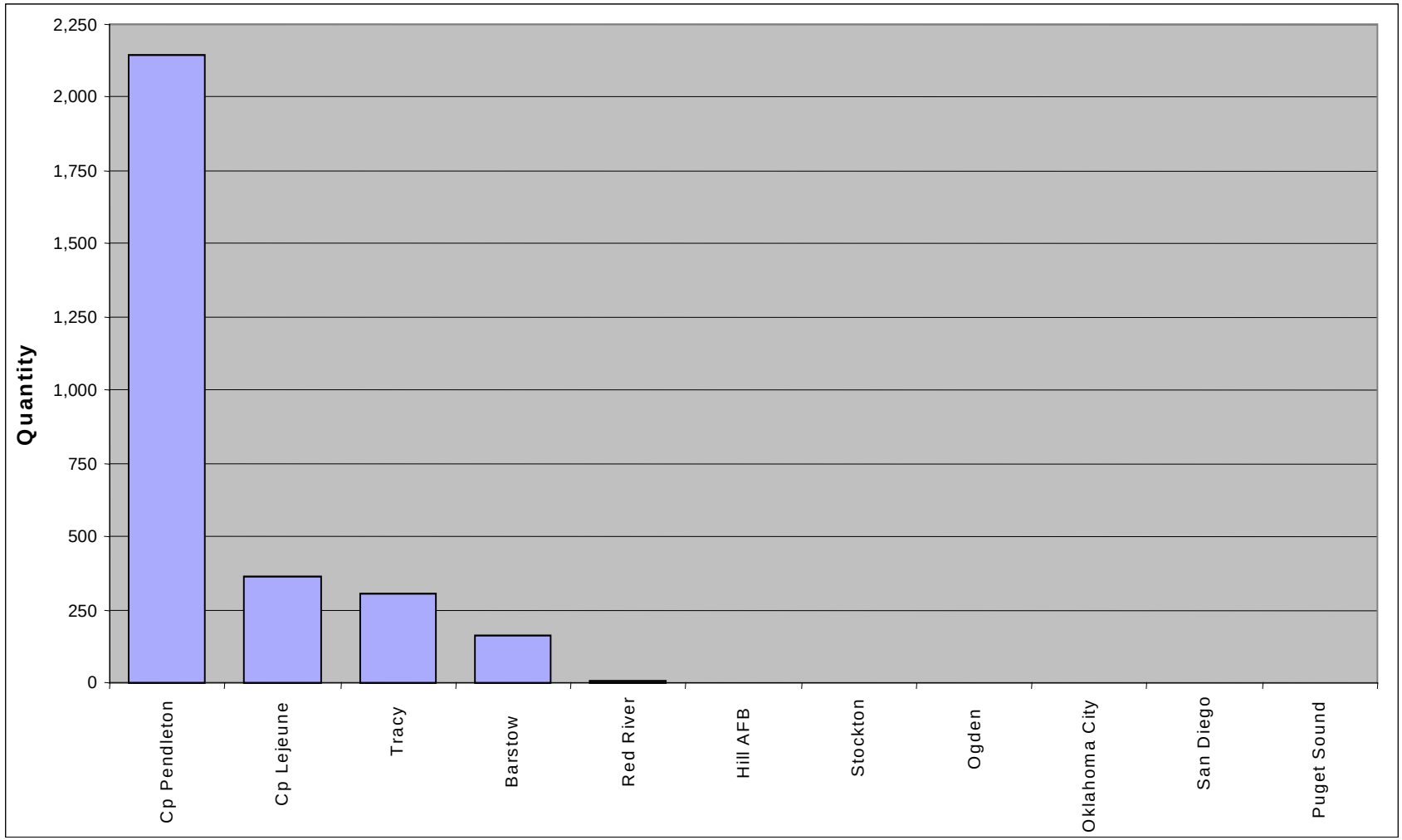


Figure D-18. Quantity of Items Arriving at the Port of San Diego by Origin (AFOE)

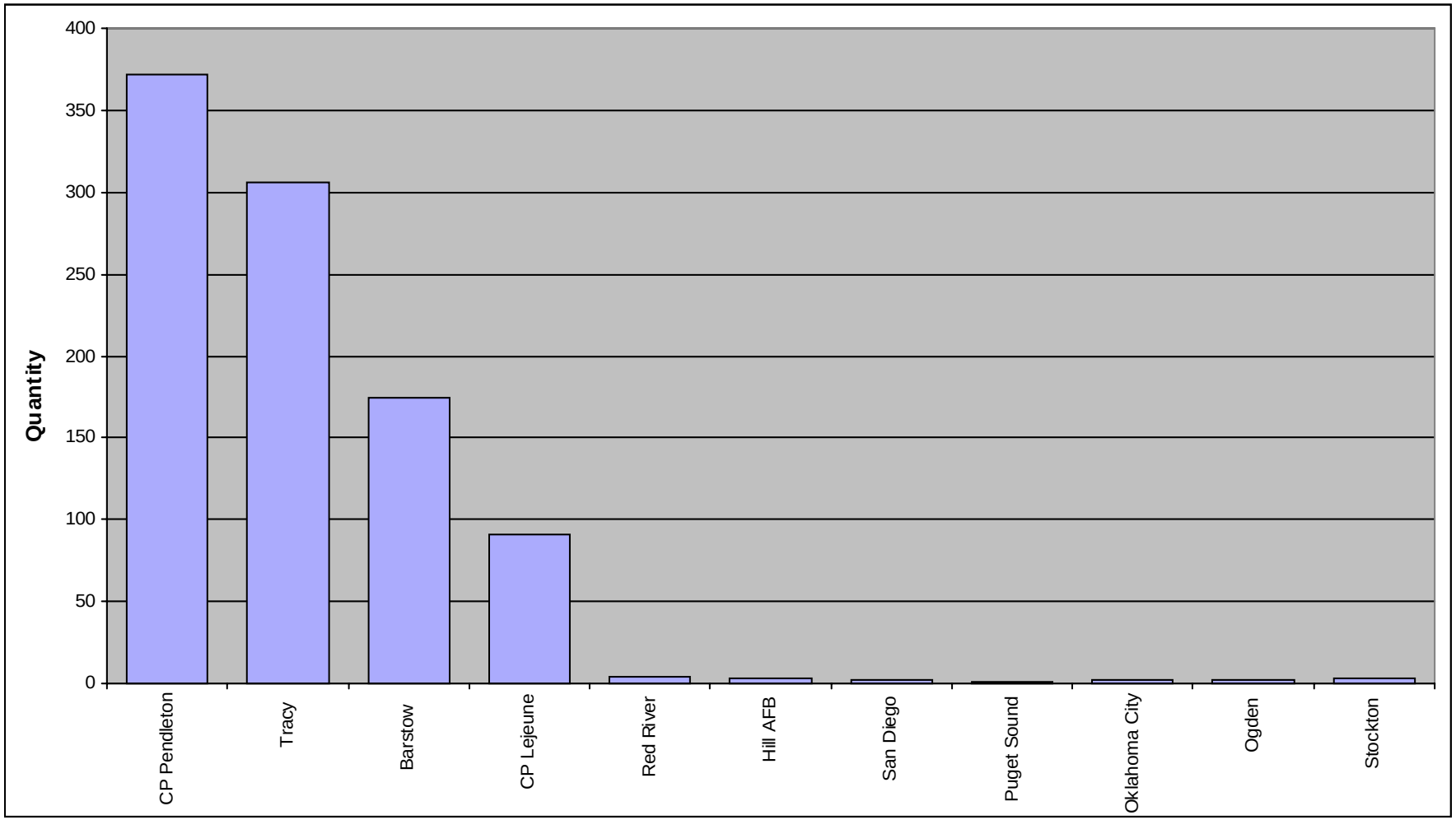


Figure D-19. Quantity of Containers Arriving at the Port of San Diego by Origin (AFOE)

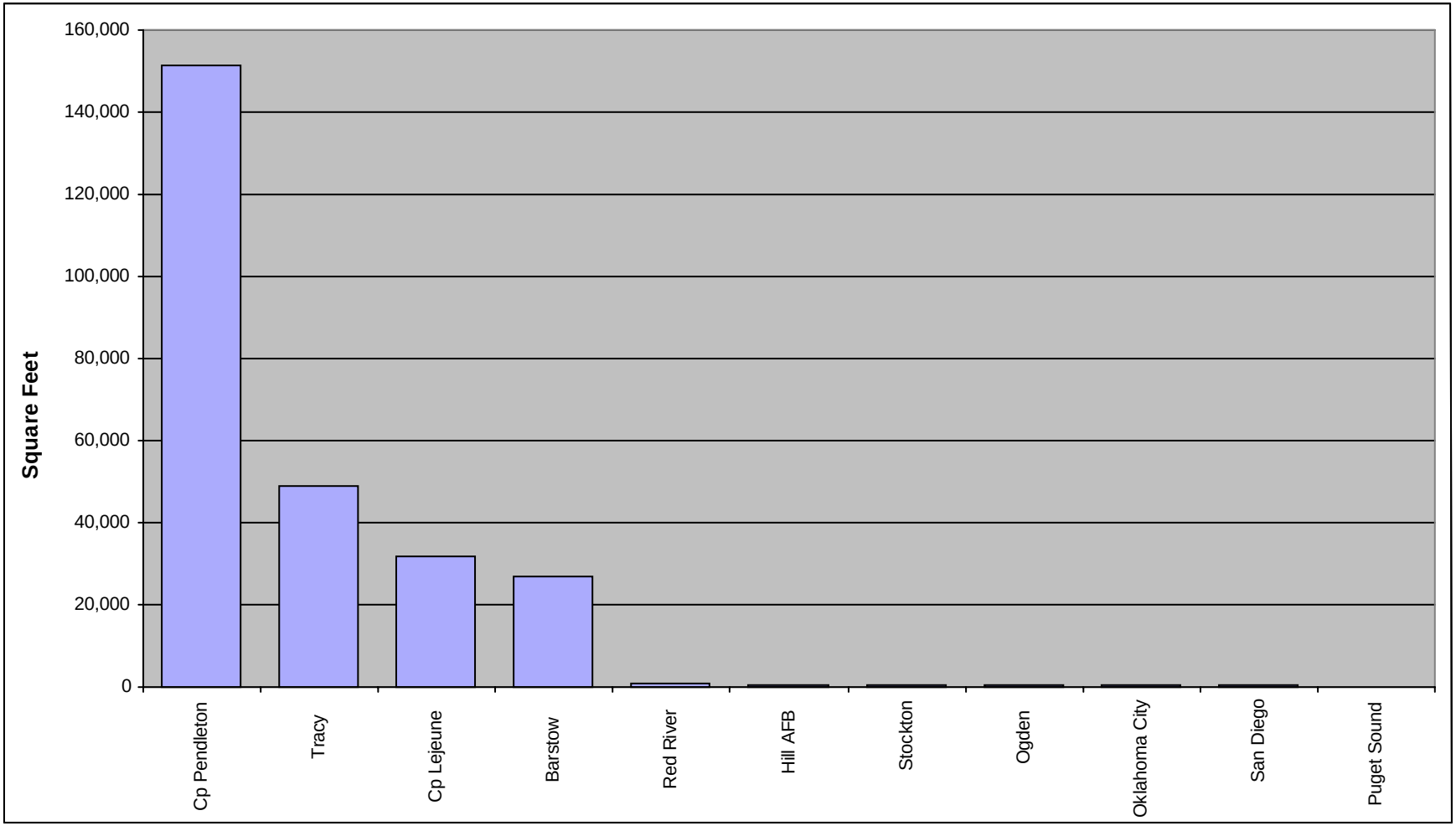


Figure D-20. Square Feet of Cargo Arriving at the Port of San Diego by Origin (AFOE)