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## EXHIBIT 1

TOYOTA MOTOR CORPORATION  
GENERAL MOTORS CORPORATION**MEMORANDUM OF UNDERSTANDING**

FEBRUARY 17, 1983

TOYOTA MOTOR CORPORATION (Toyota) and GENERAL MOTORS CORPORATION (GM) agree to establish a joint venture (JV) for the limited purpose of manufacturing in the United States a specific automotive vehicle not heretofore produced, and related components described below. In so doing, it is the intent of both parties to provide such assistance to the JV as is considered appropriate to the enhancement of the JV's success. The JV will be limited in scope to this vehicle and this agreement is not intended to establish a cooperative relationship between the parties in any other business.

The purpose of this Memorandum is to summarize the current understanding of Toyota and GM regarding the basic parameters of this limited manufacturing arrangement.

## Product

The vehicle to be manufactured by the JV will be derived from Toyota's new front-wheel Sprinter. Body styles will include a 4-Door Sedan and (6-12 months later) a 5-Door Liftback. Toyota will retain design authority over the vehicle, in consultation as to vehicle appearance with GM, the purchaser. As modifications will probably be made to the Sprinter or Corolla over time in accordance with market demand, Toyota will effect similar changes to the JV vehicle if such changes are deemed desirable by the parties. Vehicle certification will be handled by Toyota, with assistance provided by the JV and GM as agreed upon by the parties.

## Manufacturing

The JV will begin production of the GM-specific vehicle as early as possible in the 1985 Model Year with nominal capacity of approximately 200,000 units per annum at GM's former assembly facility in Fremont, California.

As part of the technical assistance stated hereinafter, Toyota will take the initiative, in consultation with GM, in designing the Fremont manufacturing layout and coordinating the related acquisition and installation of its machinery, equipment and tooling. In this regard, if GM deems it necessary for orders to be placed for construction of buildings, JV machinery, equipment and tooling prior to the establishment of the JV to facilitate a timely introduction of the initial JV vehicle in the 1985 Model Year, GM may do so in its own name directly or through Toyota, and the parties agree to share equally any capital expenditures or cancellation charges arising from such orders. The only exceptions to the above are as follows: In the event the JV is not established as a result of unfavorable U.S. governmental review of the matters set forth in this Memorandum or, following consultations between the senior management of Toyota

## Exhibit 1 (continued)

and GM, as a result of either party notifying the other on or prior to one hundred twenty (120) days following the signing of this Memorandum of Understanding by the parties that such party is not satisfied with the prospects for developing an acceptable employee relations structure, GM shall bear 100% of the cost of such expenditures and charges.

GM's annual requirements are presently expected to exceed 200,000 units per annum. Both parties will, therefore, assist the JV in increasing its production to the maximum extent possible within the available capacity. Requirements for capacity beyond the first module will be the subject of a separate study.

The JV may later produce a variation of the JV vehicle for Toyota. Toyota and GM may also agree for GM to source the GM specific vehicle from Toyota assembly plants in Japan, freeing JV capacity for Toyota's full or partial production of Toyota-specific vehicles.

The JV will purchase its production materials from those sources providing the least possible cost, consistent with its standards for product quality and vendor reliability of supply. Based on this principle, Toyota and GM have agreed upon a tentative sourcing approach, under which specific components to be purchased from Toyota, GM and other outside vendors have been separately identified. Components to be manufactured by the JV, mainly major stampings, have also been identified.

### Marketing

All GM-specific vehicles produced by the JV will be sold directly to GM or its designated marketing units for resale through GM's dealer network. If any variation of the JV vehicles should be produced by the JV for Toyota, such vehicles would be sold directly to Toyota or its designated marketing unit for resale through Toyota's dealer network. Neither Toyota nor GM will consult the other with respect to the marketing of JV products, or any other products through their respective marketing organizations.

Vehicles sold by the JV should be priced by the JV to provide a reasonable profit for the JV, Toyota, and GM. To accomplish this, production costs must be kept as low as possible through the combined best efforts of the JV, Toyota, GM and other major suppliers. In this regard, the parties have been conducting extensive studies detailing how each can work to minimize JV expenses.

The initial JV selling price of the JV vehicle to be sold to GM during the 1985 Model Year will be determined at least 60 days prior to the start of production by negotiation between the JV and GM. This negotiation will be based on the production cost estimated 90 days prior to the expected start of production by the JV, with estimates of said cost to be guided by the feasibility study. In no event, however, will the said initial JV selling price be higher than the upper limit nor lower than the lower limit, each as defined below. The upper limit shall be determined by adjusting for feature differences the Dealer Net Price less 8% of Toyota's then current U.S. model front-wheel drive Corolla equipped comparably with the JV vehicle concerned, and the lower limit shall be determined by adjusting for feature differences the Dealer Net Price less 11% of said Corolla. The adjustment for feature differences will be made by agreement between the JV and GM.

Thereafter, although there may be exceptions, the JV vehicle selling price will be revised and determined for each model year. The new selling price for the new model year will be determined by applying to the selling price for the previous model year the Index as defined in Exhibit A. Since the calculations embodied in the index may occasionally yield a selling price which is at significant variance with then current market conditions, the JV and GM will in such cases negotiate a more appropriate selling price.

If model changes or specification changes of the vehicle manufactured by the JV are necessary, Toyota, GM and the JV will agree upon these model changes or specification changes. Toyota will present to the JV the plan for the model changes or specification changes concerned. Then, the JV will submit to and negotiate with GM the planned model changes and specification changes together with the planned price changes. These model changes and specification changes will be made as agreed upon by the JV and GM.

The methodology to be employed in pricing optional equipment available on the JV vehicle (both initial and subsequent) will be comparable to that described in the three preceding paragraphs.

The initial prices of Toyota and GM components purchased by the JV will be determined 90 days or more prior to the start of production by negotiation between the JV and component suppliers after the determination of the specifications of the JV vehicle. Identification of the respective sources of supply and determination of the initial component prices will be guided by the feasibility study, with adjustments made for changes in specifications and appropriate economics.

Thereafter, the prices of components will be reviewed semi-annually. The new prices will be determined by negotiation between the JV and component suppliers.

If it is anticipated that continuation of the above mentioned methods for determination of the prices of the JV vehicles to be sold by the JV and of components to be purchased by the JV would cause those prices to be at such levels as the JV would incur the losses which could endanger the normal operation of the JV, Toyota, GM and the JV shall negotiate and take necessary measures.

As a fundamental principle, Toyota and GM shall each be free to price and free to market the respective vehicles purchased from the JV without restrictions or influence from the other.

#### Operating Responsibility

The JV will be jointly controlled by an equal number of Toyota and GM directors in line with Toyota and GM ownership. Toyota will designate the JV president as the chief executive officer and chief operating officer. Toyota and GM will assign to the JV other operating officers as the JV president and JV directors may request, but the parties recognize that the question of which party shall designate the JV officers in charge of financial affairs, labor relations and certain other operations has not yet been agreed upon.

### Quality Assurance

New vehicle warranty expense and administration will be the responsibility of the purchaser of the JV vehicle. The JV shall maintain product liability insurance for the benefit of the JV, the parties and other persons in such amounts as the parties may deem prudent, and the premium costs for such product liability insurance will be borne by the JV. In each product liability lawsuit involving a JV vehicle, the JV and each of the parties will communicate and cooperate with each other in all respects in investigating the facts surrounding the case and in litigating the matter. Each of the parties will refrain from taking adversarial positions against each other. To the extent possible under the JV's product liability insurance arrangements, the JV shall be the entity having the right to control such product liability lawsuits. However, the relative financial share of settlement or adverse judgment costs relating to such product liability claims or losses which are not covered by such product liability insurance shall be apportioned 60% to Toyota and 40% to GM. Matters relating to JV vehicle recall campaigns (including fines and costs of corrective actions) shall be the subject of further study and negotiation between the parties.

### Technical Assistance

Toyota will grant to the JV the license to manufacture the vehicle developed by Toyota, and in exchange for this license, the JV will pay a reasonable royalty to Toyota as may be agreed upon by the parties. Toyota and GM will license the necessary industrial property rights to the JV, and in exchange for these rights, the JV will pay reasonable license fees to Toyota and/or GM as may be agreed upon by the parties. Toyota and GM will also provide technical assistance to the JV on a cost basis plus reasonable markup.

As part of the technical assistance, GM agrees to assist Toyota and the JV in completing compliance tests for safety, emissions and other areas, as agreed upon by the parties.

### Purchase/Sale of Equity Interest

Toyota and GM (including, subject to the approval of the other party, their wholly or majority-owned subsidiaries) will each hold a 50% equity interest in the JV. Neither party may transfer its equity interest in the JV to a third party without the written consent of the other. The above notwithstanding, the JV will terminate not later than 12 years after start of production. The methodology for disposition of Toyota and GM equity interests prior to or upon JV termination will be incorporated in the JV documentation. Any surplus or deficit of the JV as at termination of the JV will be shared equally by Toyota and GM, in line with Toyota and GM ownership. Other issues relating to JV termination will be separately discussed.

### Financing

Both Toyota and GM will contribute cash and/or fixed assets to the JV in exchange for equity interests. The amount to be contributed as equity will depend upon the JV's total projected capital requirements. In the event that either lenders or lessors insist that payments

Exhibit 1 (continued)

made by the JV be subject to appropriate guarantees, Toyota and GM agree either to provide such guarantees based on their pro rata share of the JV or to temporarily advance funds to the JV on their own account (also on a pro rata basis). To the extent permitted by creditors, Toyota and GM further agree that any security interests held by the parties in the JV assets will be shared equally.

#### Future Difficulties

If it is anticipated that the establishment or continuation of the JV would become difficult or infeasible due to any legal, political or labor-related reason which may arise in the United States, the parties will in good faith discuss the measures to be taken concerning the JV and endeavor to find appropriate solutions.

#### Agreements to be Concluded

Depending upon specific organizational form, various agreements will be concluded among Toyota and GM (including subsidiaries thereof) and the JV. These will include the following: Partnership Agreement or Shareholders Agreement and Articles of Incorporation; Vehicle Supply Agreement (JV to GM); Toyota Component Supply Agreement (Toyota to JV); GM Component Supply Agreement (GM to JV); Toyota Service Parts Agreement (Toyota to JV and/or GM); Technical Assistance and License Agreement; Realty and Other Asset Sale and/or Lease Agreements; Product Responsibility Agreement; and other documents related to the foregoing.

Since it is extremely important that the JV begin production as early as possible in the 1985 Model Year, Toyota and GM commit their best efforts to completing such documentation by May 15, 1983. In any event, both parties agree to immediately begin the detailed production process planning necessary for conversion of the Fremont plant. Except as set forth in the separate provisions for JV buildings, machinery, equipment and tooling referred to in the "Manufacturing" section above, expenses incurred by either party which directly benefit the JV will be properly recorded and, if mutually agreed, will be subsequently rebilled to the JV.

#### Transaction Review

The agreements reached between the parties relate only to the manufacturing JV described above and do not establish any special relationship between Toyota and GM who continue to be competitors in the United States and throughout the world. Toyota and GM further acknowledge that there are no implied obligations or restrictions other than those expressly set forth.

This Memorandum of Understanding is subject to review by the governments of Japan and the United States. Both parties commit to use their best efforts to obtain favorable reviews. Until execution of all formal documentation, satisfaction by the parties with the results of any government reviews which are undertaken, and satisfaction by the parties with the prospects for developing an acceptable employee relations structure, each party reserves the right to terminate negotiations without liability to the other and the JV shall not be established. However, except as separately set forth in the "Manufacturing" section, the parties shall share equally the expenses and costs incurred by the parties which would, but for such termination, be rebilled to the JV.

#### Governing Language

This Memorandum of Understanding shall be executed in both an English and a Japanese version, but the parties agree that in the event of a conflict between the meaning of the English text and the Japanese text, the English text shall control.

Dated: February 17, 1983

TOYOTA MOTOR CORPORATION

Eiji Toyoda, Chairman of the Board

GENERAL MOTORS CORPORATION

Roger B. Smith, Chairman of the Board

## EXHIBIT A

## MARKET BASKET INDEX

The ten best selling models among the sub-compacts will be the models which constitute the basket. The models shall be revised at every model year on the basis of model volume in the U.S., using the latest R.L. Polk registration data for the previous 12 months.

For reference, the ten best selling models at present are as follows:

Chevrolet Cavalier	Mercury Lynx
Chevrolet Chevette	Nissan Sentra
Ford Escort	Subaru DL
Honda Accord	Toyota Corolla
Honda Civic	Volkswagen Rabbit

The "Index" shall be the weighted average rate of wholesale price fluctuations of these models from the prior model year to the current, weighting Corolla at 30% versus 70% for all other comparable models combined without regard of model volumes in the U.S.

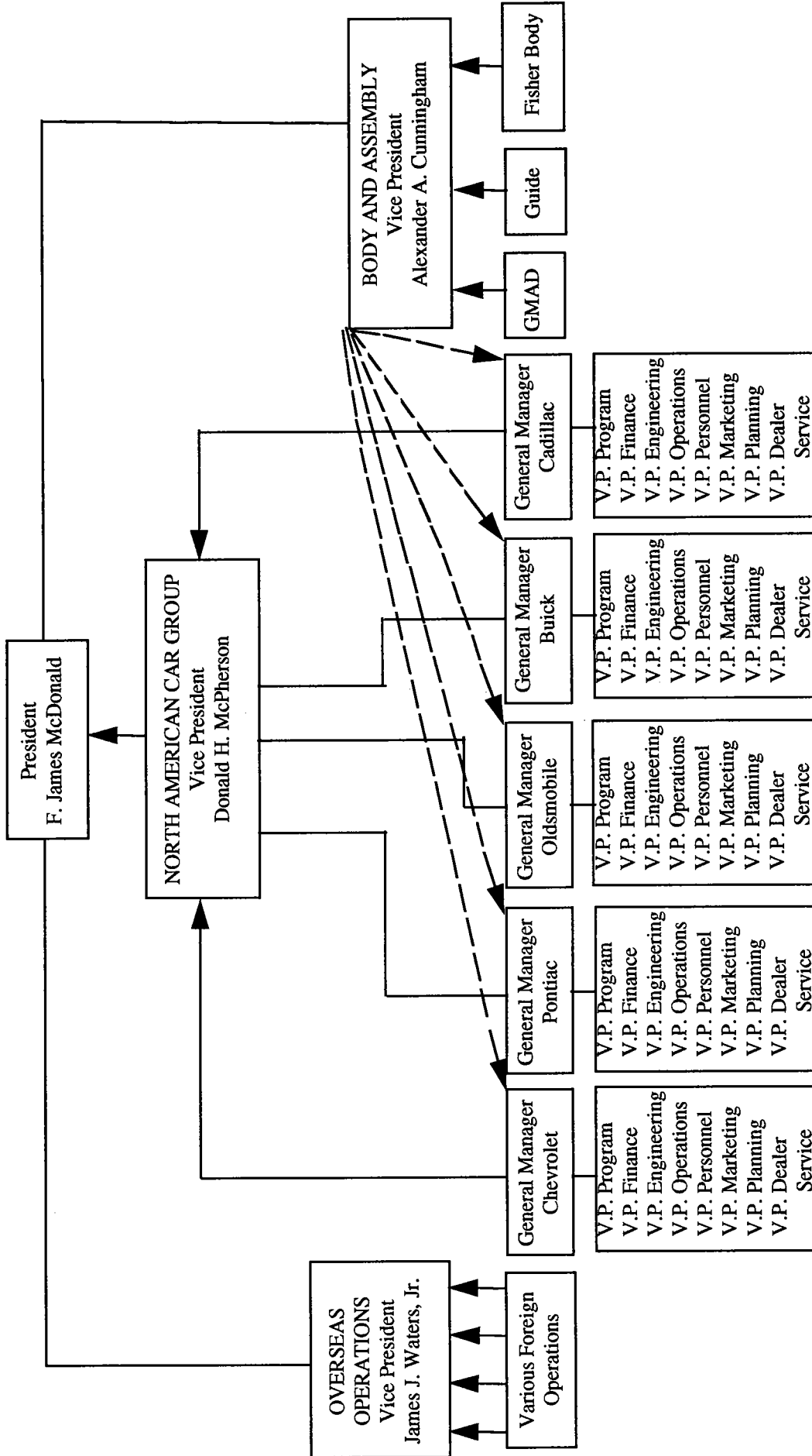
For this purpose, the wholesale price shall be adjusted by eliminating the value of equipment changes and product improvements in comparison with the previous year models. To this end, the JV will evaluate and determine the value of equipment changes and product improvements, taking into account the opinions of Toyota and GM.

When competitive models are replaced by new models, or additional competitive models are brought in, neither the old model nor the new or additional model will be included in the calculation of the Index for the model year when such model changes take place. It will, however, be included in the calculation of the Index for subsequent model years.

Source: Federal Trade Commission Decisions. January 1, 1984 - June 30, 1984 (Washington: U. S. Government Printing Office, 1985): 376-381.



EXHIBIT 2  
GM ORGANIZATION CHART



\*Greatly oversimplified, this diagram depicts former relationships between N.A. car operations and Body and Assembly and the large number of divisional vice presidencies. Solid lines represent direct reporting relationships. Dashed lines represent two-way communications.

Source: Paine Webber, Inc., *Research Report of GM Reorganization*, January 20, 1984.

## GENERAL MOTORS CORPORATION PERFORMANCE

(US\$ million)							Financial year: 31 December			
	1982	%	1981	%	1980	%	1979	%	1978	%
Total Net Sales	60,026		62,699		57,728		66,311		63,211	
By Foreign Subsidiaries	23		25		27		26		22	
Canada	4		7		7		7		5	
Europe	12		10		13		13		12	
Latin America	4		4		4		3		3	
Other	3		4		3		3		2	
Exports										
Net Profits <sup>1</sup>	963		333		(763)		2,893		3,508	
Foreign	(12)		(119)		(90)		21		13	
Canada	(4)		(11)		(3)		8		5	
Europe	1		(128)		(73)		12		11	
Latin America	(2)		(19)		6		1		(3) <sup>2</sup>	
Other	(7)		39		(20)		0		0	
Earnings per Share (1/2)	3.09		1.07		(2.65)		10.04		12.24	
Foreign Exchange Gains(Losses) <sup>3</sup> (pre-tax)	n/a		226.2		164.6		26.2		62.7	
Total Assets	41,398		38,991		34,581		32,216		30,598	
Foreign <sup>4</sup>	30		30		26		26		23	
Canada	6		7		5		6		4	
Europe	14		13		12		13		12	
Latin America	7		7		6		4		4	
Other	3		3		3		3		3	
Shareholders' Equity	18,287		17,721		17,815		19,179		17,570	
Foreign Net Assets <sup>4</sup>	14		13		12		14		12	
Canada	4		5		4		4		3	
Europe	4		3		4		6		7	
Latin America	5		4		3		2		1	
Other	1		1		1		2		1	
Long-term Debt	4,452		3,801		1,886		880		979	
Capital Expenditure <sup>5</sup>	3,611		6,563		5,161		3,351		2,696	
Expenditure on Special Tools	2,601		3,178		2,600		2,015		1,827	
R&D Expenditure	n/a		2,250		2,225		1,950		1,633	
Total Employees (average)	657,000		741,000		746,000		853,000		839,000	
Domestic	67		71		69		72		73	
Abroad	33		29		31		28		27	
Canada	5		5		5		5		5	
Europe	17		15		17		15		15	
Latin America	6		5		5		4		4	
Other	5		4		4		4		3	

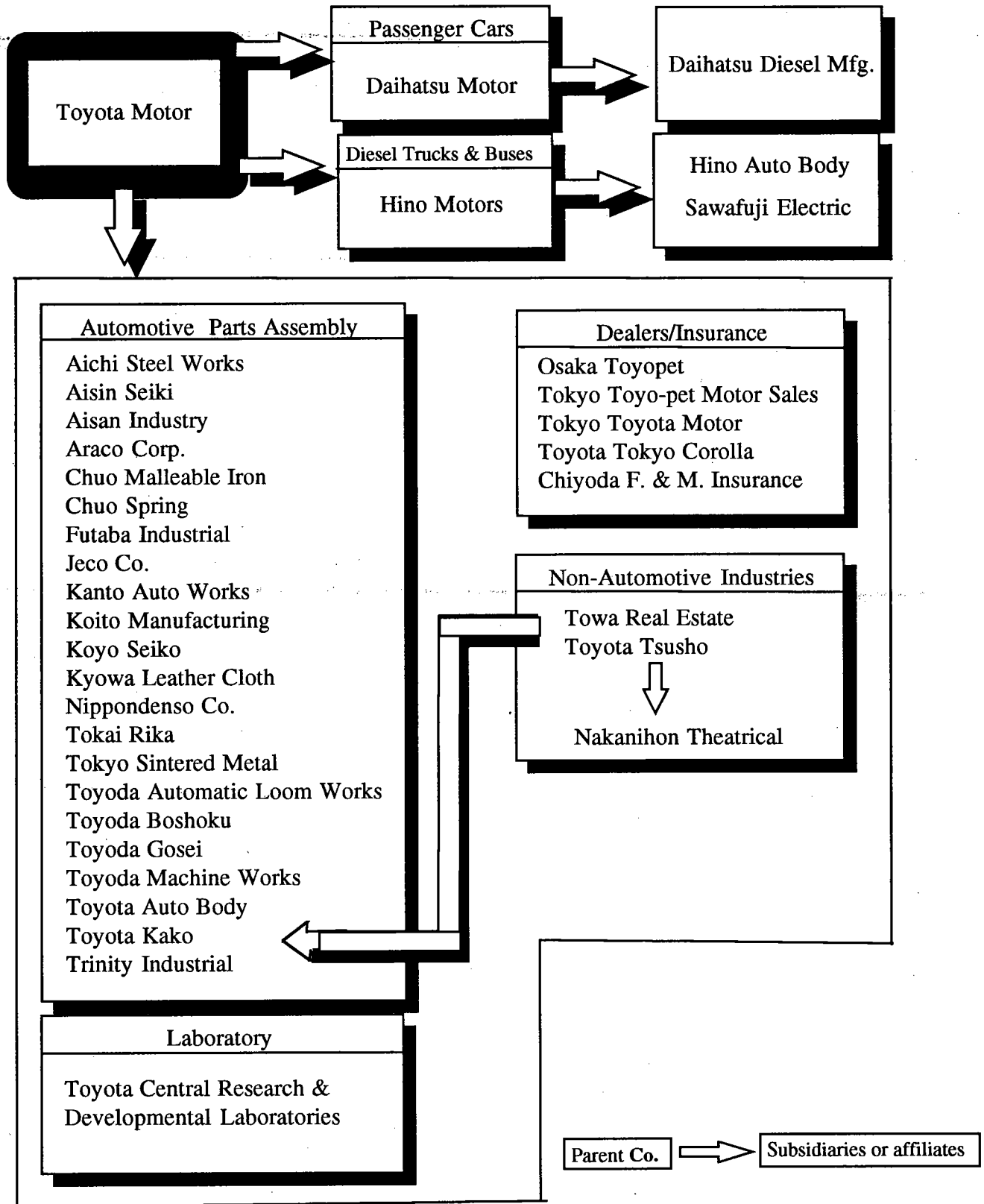
Consolidation: Includes all majority owned subsidiaries engaged in manufacturing or wholesale marketing of GM products. 20-30% owned affiliated companies included on the equity basis. 1. Foreign loss of \$688 million in 1980 and \$396 million in 1981. 2. Includes cost of liquidation of Argentine automotive operation. 3. Method of calculation changed in 1977. 4. Percentages based on figures before inter-area eliminations. 5. Excludes expenditures on special tools.

## Five-Year Summary - Operating Statistics

(000 units)	1982	1981	1980	1979	1978
Vehicle Factory Sales					
USA					
Cars	3,147	3,894	4,072	5,084	5,292
Trucks	895	717	699	1,361	1,586
Canada					
Cars	335	432	474	518	569
Trucks	230	243	225	271	284
Overseas					
Cars	1,388	1,174	1,234	1,399	1,412
Trucks	249	302	397	360	339
Total					
Cars	4,870	5,500	5,780	7,001	7,273
Trucks	1,374	1,262	1,321	1,992	2,209

Source: GM financial statements.

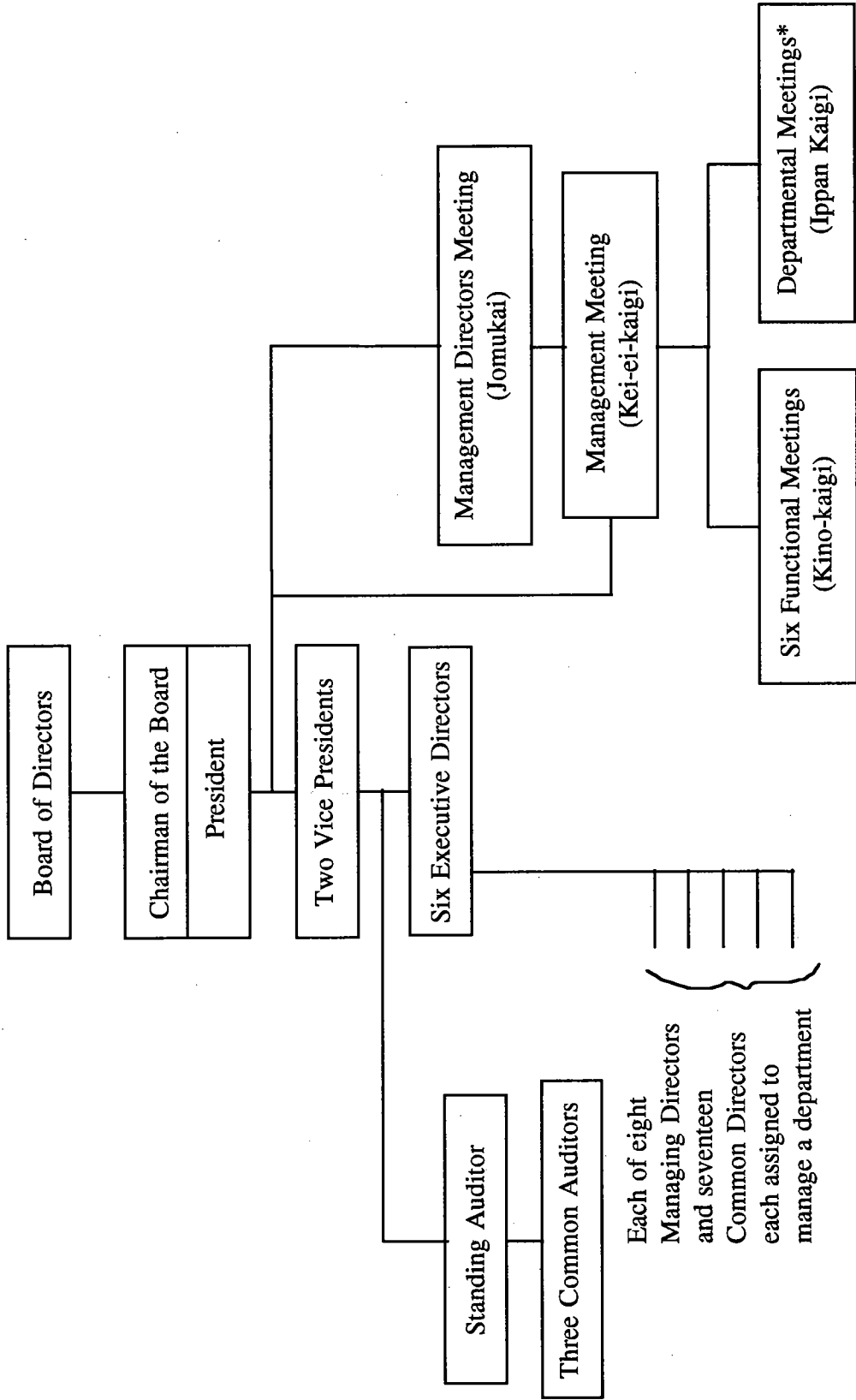
THE TOYOTA MOTOR GROUP



Adapted from *Industrial Groupings in Japan 1990 Edition*, published by Dodwell Marketing Consultants, Tokyo, Japan.

Note: The Toyota Group includes some 176 suppliers: 56 are affiliated and 120 are independent (e.g., Bridgestone, which supplies tires) or members of another group (e.g., Yamaha, for engines). In addition, Toyota produces engines, body panels, transmissions, and instrument panels in-house.

**EXHIBIT 4b**  
**TOYOTA MANAGEMENT ORGANIZATION**  
 (as of 1981)



\*1. New product meeting

2. New car promotion meeting

3. Audit improvement meeting

4. Cost meeting

Source: Y. Monden. *Toyota Production System: Practical Approach to Production Management*. Norcross, GA: Industrial Engineering and Management Press, Institute of Industrial Engineers, 1983. p. 162.

**EXHIBIT 5**  
**TOYOTA FINANCIAL PERFORMANCE**

Toyota Motor Corporation Years ended June 30	1983	1982	1981	1980	1979	1978	1977	1976	
	Vehicle units (sets)								
<b>Factory sales:</b>									
<b>Vehicles:</b>									
Domestic	1,546,748	1,501,232	1,458,536	1,568,147	1,653,379	1,364,442	1,353,070	1,401,921	
Export	1,635,866	1,654,552	1,796,406	1,681,124	1,207,150	1,439,861	1,291,626	1,061,702	
Total	3,182,614	3,155,784	3,254,942	3,249,271	2,860,529	2,804,303	2,644,696	2,463,623	
<b>Knockdown sets</b>	112,460	132,550	96,870	81,020	75,790	62,210	---	---	
	Millions of yen	Thousands of US dollars	Millions of yen						
Net sales	¥4,892,663	\$20,386,099	¥3,506,412	¥3,310,181	¥2,802,469	¥2,617,407	¥2,288,069	¥1,995,742	
Net income	201,372	839,050	132,727	143,567	102,058	116,286	116,777	99,558	
Total assets	2,801,874	11,674,476	2,138,176	1,723,651	1,440,800	1,307,710	1,173,758	1,012,503	
Shareholders' equity	1,757,452	7,322,717	1,313,582	990,020	834,457	750,689	651,848	509,229	
Common stock	120,904	503,770	86,000	83,808	77,000	73,330	63,490	55,870	
Capital investment	191,600	798,333	280,000	150,000	120,000	155,000	110,000	70,000	
Depreciation	173,455	722,731	121,004	105,632	90,054	74,832	61,231	69,231	
	Yen	US dollars	Yen						
<b>Per share:</b>									
Net income	¥83.27	\$0.346	¥64.15	¥68.15	¥49.20	¥56.07	¥57.98	¥50.27	
Cash dividends	15.00	0.062	12.14	10.70	8.91	8.28	7.20	4.89	
<b>Number of Shares outstanding at end of year (In thousands)</b>	2,418,098		2,013,000	1,676,178	1,540,000	1,466,619	1,269,800	1,117,410	
<b>Number of employees at end of year (In thousands)</b>	57,846		51,034	47,064	45,233	45,203	44,798	44,474	

**Notes:**

- The number of shares used in computing net income and cash dividends per share has been adjusted to take into account the retroactive effect of the free distribution of shares. The cash dividends include interim cash dividends.
- US dollar amounts are translated from yen, solely for the convenience of the reader, at the rate of ¥240 = US\$1, the approximate exchange rate on the Tokyo Foreign Exchange Market on June 30, 1983.

Effective January 1, 1979, the statistical standards of the Japan Automobile Manufacturers Association covering knockdown (KD) sets were revised to the effect that KD sets exports whose unit value is less than 60% of the ex-factory value of the total components in one completely built-up (CBU) vehicle are counted as KD sets. Figures for fiscal 1978 and subsequent years have been adjusted to reflect this reclassification. For fiscal 1976 and 1977, KD sets are included both in the export and total figures of vehicles.

The amounts reported are in millions of yen and thousands of U.S. dollars, and fractions of these units have been omitted. The amounts reported for fiscal 1982 and prior years are the figures for the former Toyota Motor Co., Ltd.

Source: Toyota Annual Report

EXHIBIT 6a  
**CAR SALES IN THE US (RETAIL): DOMESTIC AND IMPORTED**  
 (IN UNITS)

Year	Domestic	Imports	Total	Import %
1980(b)	6,578,309	2,395,036	8,973,345	26.7
1979	8,315,622	2,325,477	10,641,099	21.9
1978	9,307,578	2,000,500	11,308,078	17.7
1977	9,104,454	2,070,633	11,175,087	18.5
1976	8,606,573	1,492,595	10,099,168	14.8
1975	7,050,120	1,577,763	8,627,883	18.3
1974	7,331,946	1,408,947	8,740,893	16.1
1973	9,631,082	1,653,494	11,384,576	15.4
1972	9,321,502	1,616,196	10,937,698	14.8
1971	8,676,284	1,563,178	10,239,462	15.3
1970	7,115,537	1,280,359	8,395,896	15.2
1969	8,464,375	985,767	9,450,142	10.4
1968	8,624,819	779,220	9,404,039	8.3
1967	7,567,884	780,975	8,348,463	9.3
1966	8,376,993	658,123	9,035,155	7.3
1965	8,763,197	569,415	9,332,612	6.1

Source: U.S. Congress, House, Committee on Ways and Means, 96th Congress, 2d. Session, 1980, *Auto Situation: 1980*. Report of the Subcommittee on Trade (Washington D.C.: Government Printing Office, 1980) p. 4.

1980 data from *Japan Insight*, January 23, 1981. Imports do not include those from Canada. Table from G.R. Winham and I. Kabashima, "The Politics of U.S.-Japanese Auto Trade" in *Coping with U.S.-Japanese Economic Conflicts*. Eds. I.M. Destler and H. Sato. Lexington, MA: Lexington, 1982. p. 76.

### JAPANESE IMPORTS

Year	(from MVMA)	(from JAMA)	(Ward's)
1978	1,563,048		1,356,000
1979	1,617,328	1,546,740	1,769,000
1980	1,991,502	1,819,092	1,908,000
1981		1,761,403	
1982		1,691,806	

Source: Motor Vehicle Manufacturers Association of the U.S., as cited by R. Philips et al. *Auto Industries of Europe, United States, and Japan*. The Economist. 1982.

Japan Automobile Manufacturers Association as cited in *World Motor Vehicle Data*, p. 72.

Ward's Automotive Reports, as cited by N. Fujii, "The Road to the U.S.-Japan Auto Crash..." in *U.S.-Japan Relations: New Attitudes for a New Era*. Program on U.S.-Japan Relations, Harvard University, 1984.



EXHIBIT 6c  
US MARKET SHARES

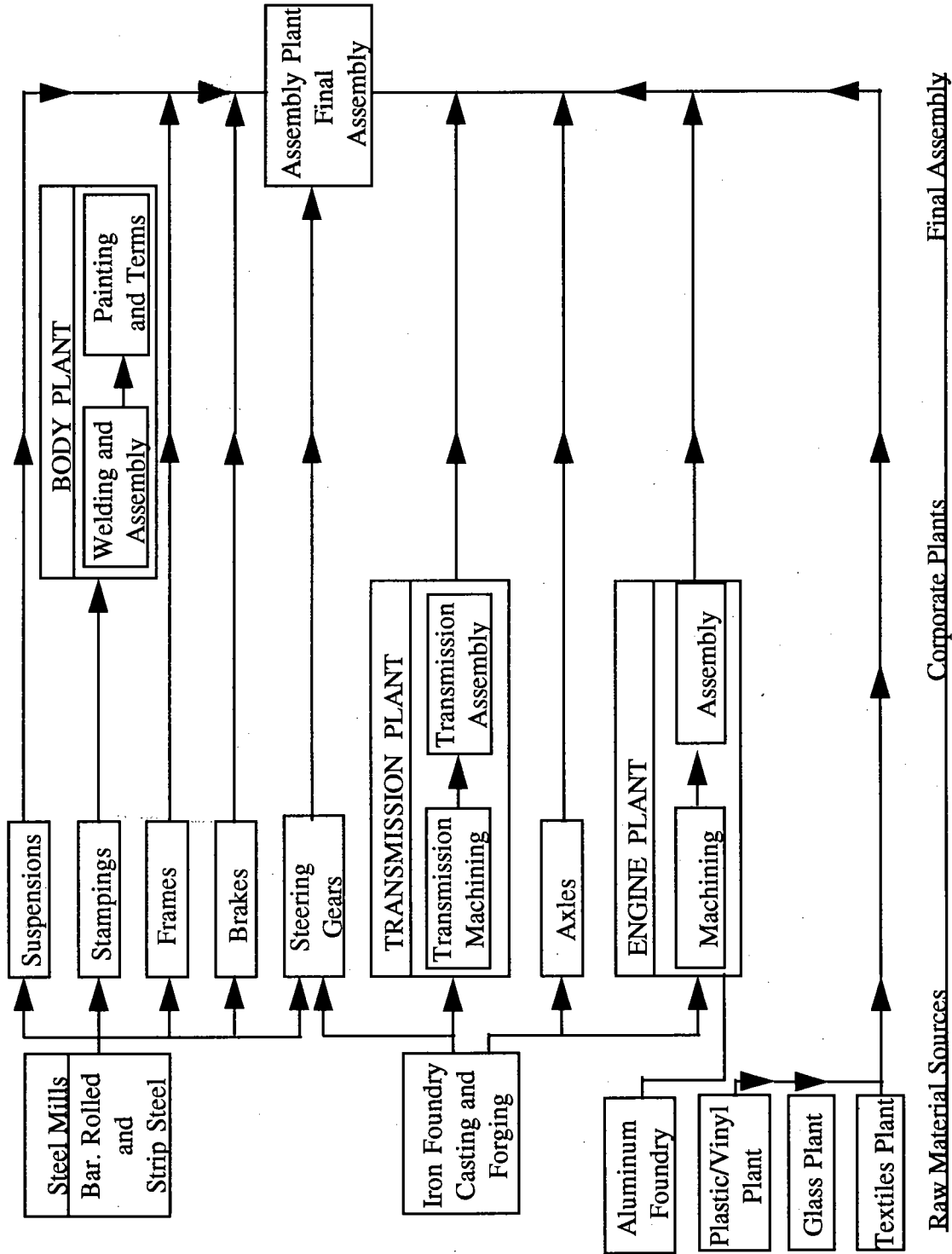
Year	General Motors	Ford	Chrysler	AMC	Datsun	Honda	Isuzu	Mazda	Mitsubishi	Subaru	Toyota	Volkswagen Domestic	Volkswagen Import	Others Germany	** Others
1982	44.07	16.87	8.67	1.41	5.89	4.59	0.19	2.05	0.05	1.88	6.65	1.44	0.84	2.24	3.45
1981	44.50	16.18	8.55	1.60	5.45	4.35	0.21	1.95	--	1.78	6.76	1.90	0.96	1.96	3.85
1980	46.79	16.64	7.20	1.74	5.95	4.32	--	1.86	--	1.65	6.70	--	1.04	1.65	4.46
1979	46.55	20.35	9.05	1.52	4.57	3.42	--	1.52	--	1.24	4.92	--	1.21	1.39	4.27
1978	47.45	22.81	10.11	1.44	3.07	2.50	--	0.68	--	0.94	4.02	--	1.97	1.24	3.77

\*\* Includes Italian and other European products plus Japanese vehicles imported in Michigan and European vehicles imported by Ford.

Source: *Automotive News, Market Data Book Issue* (various years)



EXHIBIT 7  
**IDEALIZED AUTOMOBILE MANUFACTURING SYSTEM**



Source: Adapted from J. P. O'Donnell and G. Byron, *Identifying Automotive Changes in Facilities and Capital Equipment and Assessing Community and Employment Impacts*, U.S. Department of Transportation.

**EXHIBIT 8**  
**PRODUCTIVITY AND COST COMPARISONS (BY COUNTRY)**

Year	Japan (¥ 1,000)	American (\$)	(¥ 1,000)	West Germany (Mark)	(¥ 1,000)	Korea (Won 1,000)	(¥ 1,000)
1966	434.2	5,676.70	2,057.0	8,836.30	795.3	2,414.00	3,223.7
1967	515.3	5,471.40	1,981.5	9,846.80	886.2	2,154.80	2,884.8
1968	584.3	4,178.50	1,506.6	8,927.40	803.5	2,041.10	2,660.1
1969	684.0	5,614.50	2,012.1	9,185.90	903.5	1,994.20	2,479.5
1970	800.9	5,748.40	2,058.3	10,178.40	1,001.2	1,799.50	2,074.7
1971	890.7	5,496.50	1,917.5	10,637.30	1,016.7	2,404.60	2,409.2
1972	893.1	5,725.50	1,735.8	11,309.00	1,080.9	2,929.00	2,260.1
1973	824.0	6,002.20	1,630.8	11,567.20	1,114.2	2,911.90	1,986.2
1974	880.9	6,429.70	1,878.0	12,334.40	1,392.2	3,638.90	2,654.3
1975	722.6	6,608.10	1,961.2	13,302.70	1,604.7	3,216.80	1,972.5
1976	662.3	6,524.70	1,934.9	13,442.10	1,583.1	3,122.20	1,913.0
1977	690.7	6,902.20	1,853.3	14,427.20	1,668.2	3,429.60	1,902.6
1978	731.9	7,057.80	1,485.2	15,036.50	1,575.4	3,583.70	1,558.2
1979	781.3	6,195.50	1,357.6	15,169.40	1,813.6	3,457.10	1,565.3
1980	703.2	7,766.00	1,760.9	15,697.40	1,958.1	5,099.10	1,903.4
1981	749.9	7,687.40	1,695.4	15,650.30	1,527.2	4,680.50	1,515.7
1982	794.6	--	--	--	--	3,918.40	1,334.8
Average annual growth rate (%)							
1966-81	3.7	2.9	-1.3	3.9	4.4	4.9	-4.9
1966-76	9.6	9.8	-3.3	3.9	4.9	2.7	-6.7
1973-81	-1.2	3.1	0.5	3.9	4.0	6.1	-3.3

Source: Japan Economic Association, Japanese Journal of Trade and Industry, various years.

**COMPARATIVE COSTS FOR SMALL CARS,  
GENERAL MOTORS AND NISSAN, 1981**

PRODUCTIVITY/COST CATEGORY	GM	Nissan
Labor Productivity, Employee Hours per Small Car	83	51
Costs per Small Car		
Labor*	\$1,826	\$ 593
Purchased components	3,405	2,858
Other manufacturing costs	730	350
Nonmanufacturing costs**	<u>325</u>	<u>1,200</u>
<b>Total</b>	<b>\$6,286</b>	<b>\$5,001</b>

\* Average labor cost per hour in the United States, \$20 per hour; in Japan, \$11.28.

\*\* Nonmanufacturing costs include those of ocean freight, selling and administrative expenses.

Source: W.J. Abernathy, K. B. Clark, and A. M. Kantrow, *Industrial Renaissance*, 1983: 61.

## EXHIBIT 8 (cont'd)

**ONE ANALYSIS OF THE JAPANESE COST ADVANTAGE  
OVER THE US IN PRODUCING SMALL CARS**

The cost advantage in dollars per car enjoyed by Japanese automakers relative to United States automakers in producing subcompacts.

Superior Technology.....	\$ 73
<b>Better Management Systems</b>	
Quality Control.....	329
Just-in-Time Production Techniques.....	550
Materials Handling Engineering.....	41
Other (Quality Circles, Job Classification).....	478
Total, Better Management Systems.....	1,398
<b>Union-Management Relations</b>	
Less Absenteeism.....	81
More Flexible Relief Systems and Allowances.....	89
Union Representation.....	12
Total, Union-Management Relations.....	182
Lower Wages and Fringe Benefits.....	<u>550</u>
 Total Cost Advantage to Japanese.....	 \$ 2,203
Less: Shipping Costs.....	<u>485</u>
 Net Cost Advantage to Japanese.....	 \$ 1,718

Source: *The New York Times*, "Strategy in Venture of GM and Toyota",  
February 28, 1983: D3.



**Louis Hughes** -- *Assistant Treasurer, GM Financial Staff*  
 At 34, Hughes had responsibility for all financing activities and analysis related to GM overseas subsidiaries and various special projects including analysis and establishment of new foreign business ventures. He took his first position in GM's New York treasurer's office in 1973 after receiving a BS in mechanical engineering from the General Motors Institute (1971) and an MBA from Harvard.

**James C. Miller, III** -- *Chairman, Federal Trade Commission*

Born in Atlanta, Georgia, Miller was educated at the University of Georgia and later received a Ph.D. from the University of Virginia. He began government service in 1969 as a senior staff economist with the United States Department of Transportation. Miller had also held teaching positions at Georgia State University (1968-69) and Texas A&M (1972-74), and was also a resident scholar at the American Enterprise Institute (1977-81). He was appointed FTC chair by President Reagan on September 30, 1981. Miller was considered philosophically aligned with the President's goal of reducing regulatory burdens on the U.S. economy.

**Michael Pertschuk** -- *Commissioner, Federal Trade Commission (not pictured)*

Pertschuk, 50, served as FTC chair from 1977 until 1981, having been appointed by President Jimmy Carter. Pertschuk was credited by many observers with getting the FTC to confront powerful corporate interests more than at any previous point in its 65 year history. Married with two children, Pertschuk was educated at Yale. After two years in private law practice, he began government service in 1962 as a legislative assistant, later serving in a number of positions relevant to commerce, international trade and product safety. He had also held academic appointments at the American University Washington School of Law, and Georgetown Law School. The University of California Press published his book, *Revolt against Regulation: Rise and Pause of the Consumer Movement*, in 1982.

EXHIBIT 9  
**PROFILES OF SOME INDIVIDUALS LIKELY TO INFLUENCE THE NEGOTIATIONS**

**Owen Bieber** -- *President, United Automobile, Aerospace, and Agricultural Implement Workers of America*

Owen Bieber, 43 and physically imposing (6 feet 5 inches, 250 pounds), was born in Michigan. He began at the UAW in 1961 as an international representative. A life member of the NAACP, Bieber adhered to the liberal social policies laid down by former UAW president Walter Reuther, and saw job security as a major issue that needed to be addressed.

**Donald Ephlin** -- *Vice-president, UAW and Director, GM Department*

Ephlin, 58, served as the main UAW representative in negotiations with the joint venture. Born and raised in Framingham, Massachusetts, where GM had an assembly plant, he was married and had three children. Ephlin was said to have been instrumental in the development of union programs to democratize the work place, increase employee involvement, and heighten the quality of work life. He joined the UAW in 1949, and had held positions on the Union's international staff, as assistant to president Leonard Woodcock (1970-77) and as director of Region 9A (the New England States) prior to heading the GM Department.

**Kan Higashi** -- *General Manager, Overseas Projects, Toyota Motor Corporation*

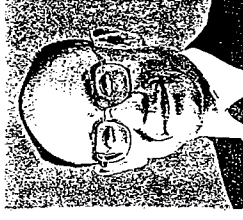
Higashi, 52, was born in Osaka, Japan. He joined Toyota in 1954, after graduating from Kobe University with a degree in economics. Higashi began his Toyota career in accounting in 1954. Over 30 years he handled a variety of responsibilities at the company, many in the area of purchasing, before becoming general manager of the Fremont Project. He was involved in Toyota's abortive joint venture negotiations with Ford from 1980-1981.





**Tatsuro Toyoda -- a managing director at Toyota Motor Corporation**

Grandson of Toyota's founder, nephew of Eiji Toyoda and younger brother of Toyota president Shoichiro Toyoda, 53-year-old Tatsuro Toyoda believed the joint venture would lead to the creation of over 11,000 jobs for Americans. Toyoda was informally named President and CEO of the new company on March 21, 1983. (This appointment would become official as soon as the FTC ruled on the venture). Toyoda took a strong interest in the labor structure for the JV, especially regarding job classifications and the use of a tag vs. mass relief assembly line system.



**Takeo Tsukada -- General Manager, Legal Affairs Department, Toyota Motor Corporation**  
 Tsukada, 51, was educated at Nagoya University and earned a Ph.D. subsequent to joining Toyota in 1958. He was known for taking strong, even abrasive positions. Tsukada chaired the GM - Toyota working group on labor issues.



**William J. Usery, Jr. -- President, Bill Usery Associates, consultant and sole employee of the GM - Toyota joint venture**

Usery, 60, was president of Bill Usery Associates in Washington, DC. Born and raised in Hardwick, Georgia, Usery was married and had one child. He was educated at Georgia Military College and Mercer University, and served in the Navy from 1943 to 1946. He had a distinguished career in labor relations. He worked as a welder and machinist from 1942-56, when he became a representative for the International Association of Machinists. He served as Assistant U.S. Secretary of Labor for Management Relations from 1969-73, and was appointed as United States Secretary of Labor from 1976-1977.

**Roger B. Smith -- Chairman and CEO, General Motors Corporation**

Enthusiastically devoted to GM, Smith, 58, was born in Ohio and raised in Detroit. He earned BBA and MBA degrees from the University of Michigan after serving in the Navy during World War II. Known for his intellect and thinking on his feet, Smith began his GM career in 1949 as a general accounting clerk. By 1971, he was vice president in charge of GM's financial staff. As an executive vice-president, Smith was the driving force behind GM's adoption of sophisticated strategic planning.

**John F. Smith, Jr. -- Director, Worldwide Product Planning, General Motors Corporation**

Born and raised in Massachusetts, the 45-year-old Smith received his BBA from the University of Massachusetts and his MBA from Boston University. He joined GM in 1961, and became part of the powerful New York financial staff in 1966. As part of this group, he became a friend and confidante of Roger Smith. Jack Smith was the original GM representative sent to Japan to investigate Toyota's projects, helped to develop the joint venture proposal plan that Roger Smith presented Eiji Toyoda on in March, 1982, and led the team of GM negotiators that concluded the Memorandum of Understanding with Toyota on February 17, 1983.

**Eiji Toyoda -- Chairman, Toyota Motor Corporation**

Nephew of the founder of the Toyota Group, the 69-year-old chairman joined Toyota in 1936. Prior to merging the company with Toyota Motor Sales in 1982, he served as president of the Toyota Motor Company. Educated at the elite Tokyo University in mechanical engineering, Toyoda spent a month observing the operations of US auto plants in 1950 in order to learn how to produce cars "properly." Toyoda was responsible for much of the strong emphasis that Toyota put on manufacturing efficiency. His conservative views set the tone for the corporation; he resisted pressure from MITI to invest in the U.S. until well after Honda and Nissan made clear their intentions to do so. Toyoda served as president of the Japan Automobile Manufacturers Association from 1972 to 1980.



EXHIBIT 10  
**CHRONOLOGY OF NEGOTIATIONS TO DATE**

1981	Dec 21	Kato visits R. Smith for the first time in Detroit
1982	Mar 1	R. Smith and E. Toyoda discuss the concept of a joint venture in New York City
	Mar (end)	agreement in principle reached on undertaking a feasibility study for a joint venture
	Apr 5	GM Board of Directors informed of preliminary discussions with Toyota and their strategic implications
	Apr 14	first operational level negotiations begin in Tokyo
	May 17-20	second operational level negotiations held
	Jun	Morita and other Toyota officials survey GM's U.S. plants
	summer(end)	agreement reached on basic issues such as type of car, number to be produced, plant site, and sales channels
	Sep 20	another round of operational level negotiations begins in Tokyo
	Nov 30	R. Smith makes proposal to break impasse on valuation of Fremont property and capitalization of venture
	Dec 23	Yamamoto and Iwasaki meet with R. Smith in Detroit (E. Toyoda visited the US in Nov.)
	Dec 27	E. Toyoda accepts Smith's proposal, and they resolve to finalize a memorandum of understanding quickly
1983	Jan 20-26	last operational level negotiations held in Japan
	Feb 7	GM Board of Directors approves final draft of agreement
	Feb	MITI announces extension of auto export restraints to a third year, April, 1983-March, 1984
	Feb 16	GM and Toyota's inhouse and outside counsel inform Glynn at FTC of signing ceremony the following day
	Feb 17	R. Smith and E. Toyoda sign "Memorandum of Understanding"
	Feb (end)	Hart-Scott-Rodino filing by GM and Toyota
	Mar 3	Usery retained to assist in negotiations with UAW
	Mar 21	T. Toyoda named president and CEO of the joint venture
	Apr	first negotiations between Toyota's counsel and FTC staff concerning release of requested information
	May 18	Bieber succeeds Fraser as president of the UAW
	May 25	formal Toyota-UAW negotiations begin

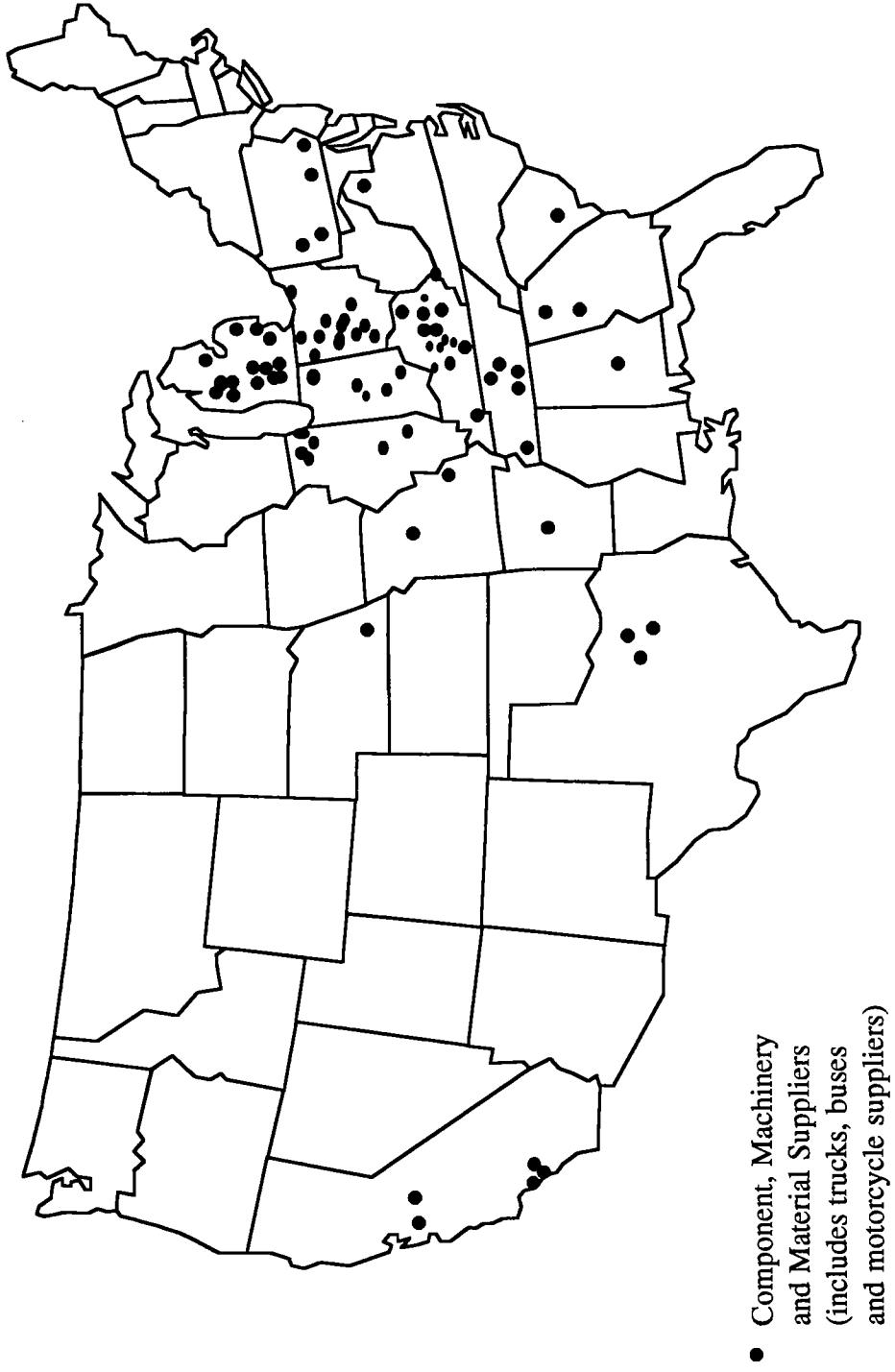
EXHIBIT 11  
**JAPANESE YEN/US DOLLAR EXCHANGE RATES**  
 January, 1975-May, 1983

(end of period - ae)

Year	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1975	297.85	286.60	293.80	293.30	291.35	296.35	297.35	297.90	302.70	301.80	303.00	305.15
1976	303.70	302.25	299.70	299.40	299.95	297.40	293.40	288.75	287.45	293.70	295.75	292.80
1977	289.30	282.70	277.50	277.70	277.30	267.70	266.00	267.30	265.45	250.60	245.70	240.00
1978	241.40	238.70	222.40	222.90	223.40	204.70	190.70	190.20	189.15	176.00	197.50	194.60
1979	201.30	202.20	209.30	218.50	219.80	217.00	217.20	220.00	223.30	237.70	248.80	239.70
1980	238.80	249.80	249.70	239.00	224.30	217.60	227.00	219.00	212.20	211.50	216.70	203.00
1981	204.70	208.80	211.00	215.00	224.10	225.80	239.45	228.00	232.70	233.80	214.30	219.90
1982	230.50	237.00	246.50	235.10	243.50	254.00	257.50	261.70	269.50	277.30	253.10	235.00
1983	237.90	235.45	239.40	237.00	238.30							

Source: International Monetary Fund, *International Financial Statistics*, Supplement on Exchange Rates no. 9, 1985:67. End of year (ae) market rate.

EXHIBIT 12  
ESTIMATED U.S. DISTRIBUTION OF AUTO COMPONENTS SUPPLIERS



Source: Casewriters' estimates.



## EXHIBIT 13

**ESTIMATED DEGREES OF VERTICAL INTEGRATION BY N. AMERICAN AUTO MAKERS**  
(SELECTED COMMODITY GROUPS, 1976)

Product Category, Component	GM	Ford	Chrysler	AMC	Product Category, Component	GM	Ford	Chrysler	AMC
<b>Body</b>					<b>Suspension</b>				
Vinyl	E	C	C	E	Front	C	Y	C	E
Cloth	E	Y	E	E	Rear	C	Y	E	E
Steel	E	Y	E	E	Shock absorbers	C	X	Z	E
Stampings	C	C	C	X	<b>Steering</b>				
Operating hardware	I	Y	E	E	Gear	C	Y	C	E
Lamps, switches, instruments	X	X	E	E	Linkage	C	Y	E	E
Exterior ornamentation	C	Z	E	E	Column	C	Y	X	E
Seats	Y	Z	Z	E	Wheel & horn pad	N/A	N/A	E	E
Sealers, weather strip	Y	E	E	E	Attaching parts	Y	Z	E	E
Glass	E	C	C	E	<b>Brakes</b>				
Convenience items	I	Z	E	E	Wheel brakes	C	Z	Z	E
Interior moldings	N/A	X	E	E	Hubs, drums & discs	C	Z	E	E
Instrument panel & console	N/A	Z	C	C	Master cylinder	C	Z	C	E
Body paint	E	Y	Y	E	Brake pedal bracket	C	Z	Y	E
Body electrical, other	Y	Z	Y	C	Power brake booster	C	Z	E	E
<b>Power Plant</b>					Tubes & hoses	E	E	E	E
Base engine					Transmission	C	C	C	E
Block	C	C	C	C	<b>General chassis</b>				
Pistons	C	C	C	C	Wheels	C	Z	E	E
Rods	C	C	C	C	Tires	E	E	E	E
Heads	C	C	C	C	Gearshift control	C	C	E	E
Intake & exhaust manifolds	C	C	C	C	Clutch control	C	C	E	E
Cams	E	C	E	C	Parking brake control	C	C	E	E
Crank	C	C	C	E	Exhaust system	X	Z	E	E
Valves & valve train comp.	E	Y	E	E	Fuel system	C	X	C	C
Rings	E	E	E	E	Fender shields	C	X	N/A	
Bearings	N/A	E	E	C	Bumpers	C	Y	E	E
Water pump	C	C	C	E	Front structure insulators	C	X	C	E
Carburetor	X	N/A	E	C	Chassis electrical	X	X	E	E
Air cleaner	C	C	E	E	Tools & jacks	N/A	N/A	E	E
Fuel pump	C	N/A	E	E	Heat shields	N/A	X	E	E
Ignition system	C	C	C	E	Chassis indirect materials	E	X	E	E
Radiator, hoses, etc.	C	X	E	E	Electrical assembly	C	X	E	C
Mechanical fan & drive	C	X	E	E	Wiring & wiring clips	C	Z	E	E
Throttle controls	C	N/A	E	E	Heating & air conditioning	C	X	C	E
Power steering pump	C	Y	E	E	Restraint systems	Z	E	E	E
Air pump	C	E	E	E	<b>Accessory equipment</b>				
Engine supports	C	N/A	E	E	Radio	C	C	C	E
Misc. parts & hardware	E	E	E	E	Window washer	C	X	E	E
Oil filter	C	E	E	E	Engine block heater	E	X	E	E
Vent & evaporative controls	C	Z	Y	E	Other	Y	N/A	E	E
Clutch	C	Z	E	E					
Torque Converter	C	Z	C	E					
<b>Final Drive</b>									
Prop shaft	C	N/A	C	E					
Real axle	C	Y	C	C					
Front axle assembly	C	Y	E	E					
Frame structure	E	Y	C	E					

C = captive, 100 percent sourced internally.

X = less than 33 percent sourced externally.

Y = 33 to 66 percent sourced externally.

Z = more than 67 percent sourced externally.

E = sourced externally 100 percent.

N/A = not available.

Source: M. Porter. *Cases in Competitive Strategy*. NY: Free Press, 1983. p. 291.

EXHIBIT 14  
SAN FRANCISCO BAY AREA

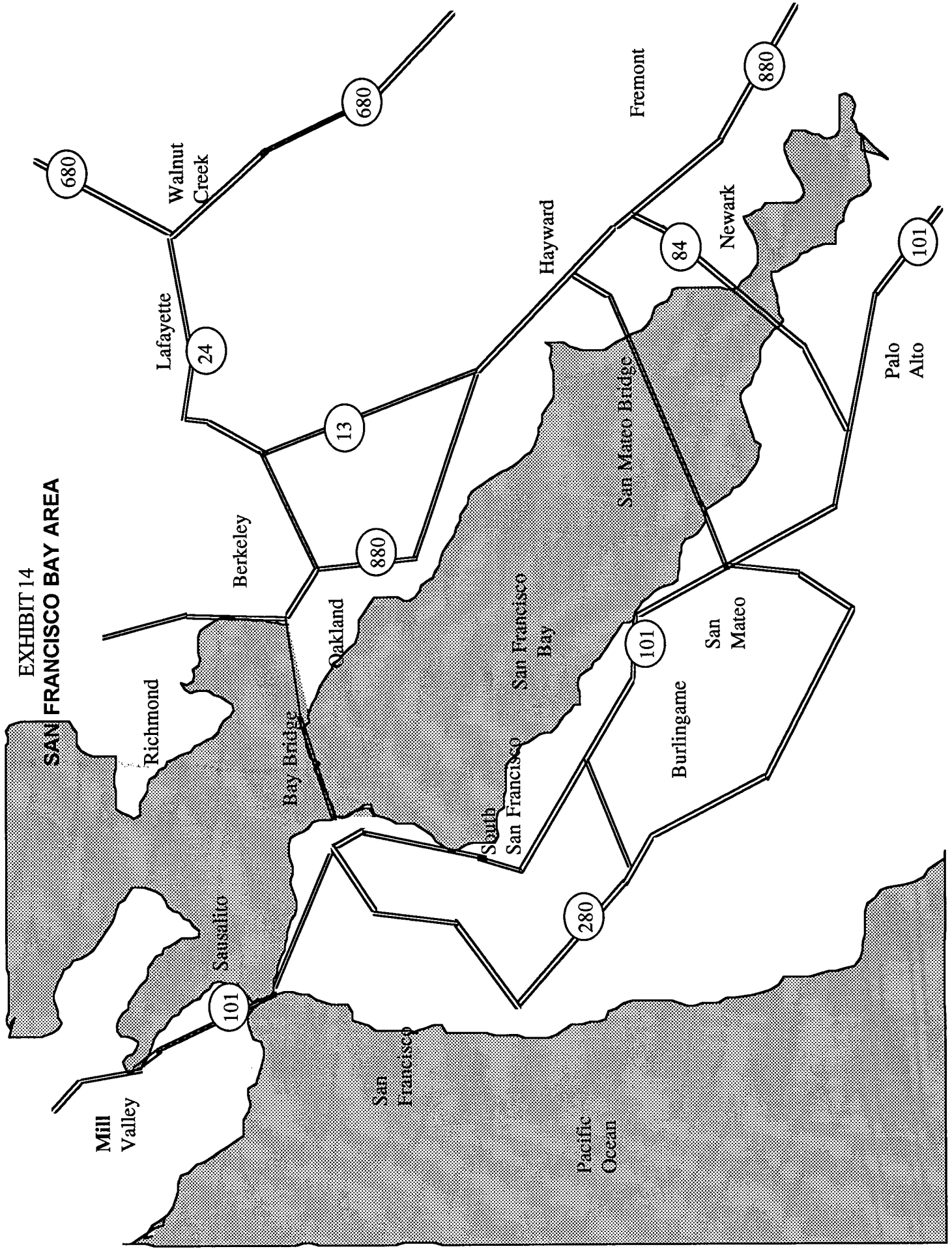


EXHIBIT 15  
**FEDERAL TRADE COMMISSION**  
(as of May, 1983)

