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A GUIDE TO STRATEGIC PLANNING FOR THE INLAND BARGE AND
TOWING INDUSTRY AP. (U) DRAVO MECHLING CORP NEW ORLEANS
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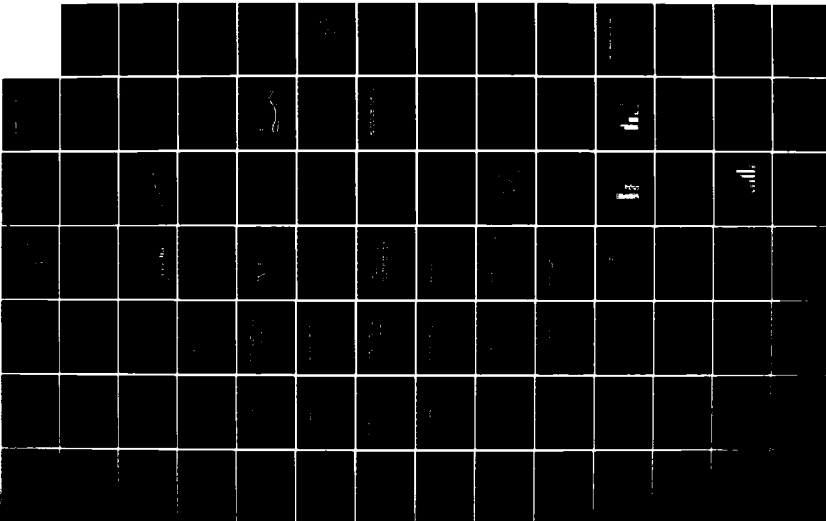
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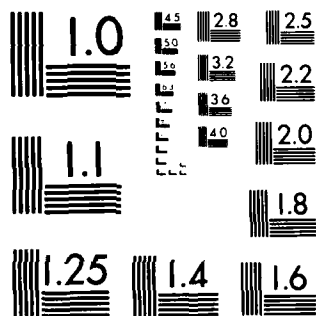
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Appendix I - Final Presentation
A Guide to Strategic Planning
for the Inland Barge and Towing Industry

CONTRACT NO. DTMA91-83-C-30063
REPORT NO. MA-RD-770-85006



US Department of Transportation
Maritime Administration

DECEMBER 1984



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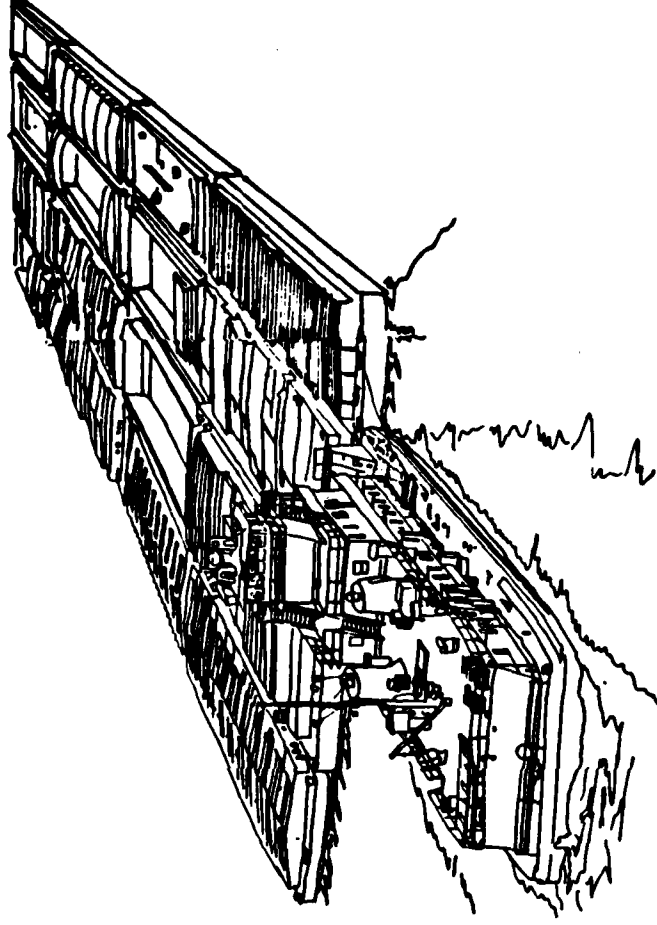
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15. Abstract (Limit: 200 words) This Appendix contains briefings that describe a structure for strategic planning that has been applied by an inland barge and towing company. It describes the procedures followed, information requirements, and the analysis of the industry, competitors, markets, and other environmental factors. Also included are the results of the market analysis and forecasts of commodity movements and equipment availability.		16.	
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Appendix I - Final Presentation A Guide to Strategic Planning for the Inland Barge and Towing Industry



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FOREWORD

UNDER THE SPONSORSHIP OF THE UNITED STATES MARITIME ADMINISTRATION, DRAVO-MECHLING CORPORATION AND TEMPLE, BARKER & SLOANE, INC., HAVE DEVELOPED A METHODOLOGY FOR STRATEGIC PLANNING THAT HAS BEEN SPECIFICALLY DESIGNED TO MEET THE NEEDS OF THE INLAND BARGE AND TOWING OPERATOR.

A COMPLETE DESCRIPTION OF THE STRATEGIC PLANNING PROCESS, INCLUDING THE MARKET ANALYSIS, IS FOUND IN THE PRIMARY DOCUMENT: A GUIDE TO STRATEGIC PLANNING FOR THE INLAND BARGE AND TOWING INDUSTRY.

THIS EXECUTIVE SUMMARY IS DESIGNED TO REPORT THE FINDINGS AND CONCLUSIONS OF THE STUDY. IT DESCRIBES THE NEED FOR STRATEGIC PLANNING BY THE INLAND BARGE INDUSTRY, THE RESULTS OF THE MARKET ANALYSIS, THE ELEMENTS OF THE PLANNING SYSTEM, AND IMPLEMENTATION OF THE SYSTEM.

THE INFORMATION IN THIS EXECUTIVE SUMMARY IS PRESENTED IN THE FORMAT OF SLIDE PRESENTATIONS THAT WERE USED AT THE TRANSPORTATION RESEARCH BOARD/AMERICAN WATERWAYS OPERATORS, INC. JOINTLY-SPONSORED CONFERENCE IN NEW ORLEANS ON AUGUST 13, 1984.

STRATEGIC PLANNING FOR INLAND WATERWAY OPERATIONS

L. S. SUTTON

TRB/AWO MIDYEAR MEETING

AUGUST 13, 1984

DRavo MECHLING CORPORATION
TEMPLE, BARKER & SLOANE, INC.

GOOD AFTERNOON.

DRAVO MECHLING AND TEMPLE, BARKER & SLOANE WITH THE ASSISTANCE OF THE MARITIME ADMINISTRATION HAVE DEVELOPED A STRATEGIC PLANNING SYSTEM FOR THE INLAND WATERWAYS. WE WILL DESCRIBE THE SYSTEM FOR YOU THIS AFTERNOON IN FOUR PARTS.

FIRST, I WILL GIVE YOU AN OVERVIEW OF THE PROJECT. BRENT DIBNER OF TBS WILL TALK IN DETAIL ABOUT THE FORECASTS WE DEVELOPED AND SOME IMPLICATIONS THEY HOLD FOR THE INDUSTRY.

BERNIE JACOBSON, ALSO OF TBS, WILL THOROUGHLY COVER THE PLANNING PROCESS, I.E., THE STEPS THAT ARE NECESSARY TO GET THE JOB DONE AND FINALLY, I WILL COME BACK AND TELL YOU HOW IT WORKED FOR US INCLUDING SOME DETAILS ON HOW WE DID IT.

THE CURRENT SITUATION

Inland transportation industry no longer financially healthy or growing

Market environment dramatically altered

Leading carriers suffering losses

Other carriers' profits declining

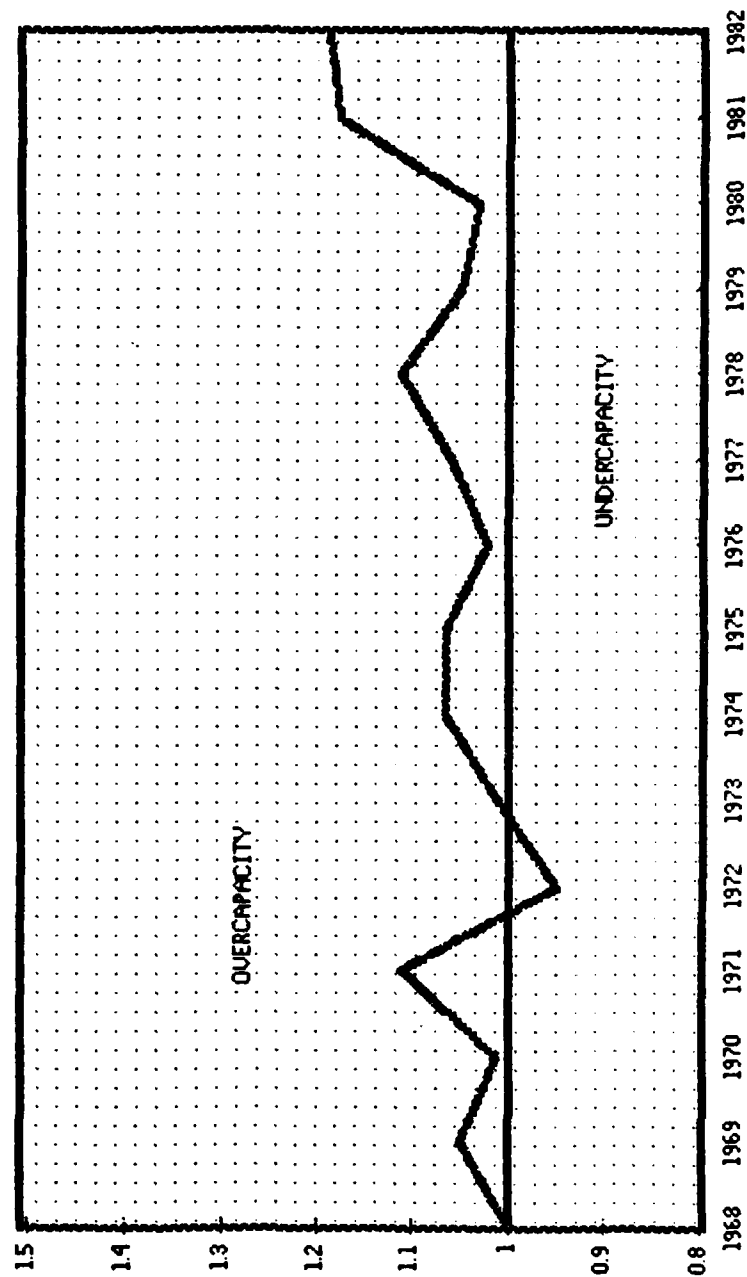
Regulatory and intermodal environment changing rapidly and profoundly

THIS INDUSTRY HAD BEEN A GROWING, RELATIVELY STABLE SEGMENT OF BULK MARINE TRANSPORTATION. MOST OF ITS TRAFFIC IS FREE FROM ECONOMIC REGULATION.

THE CURRENT DEPRESSION IN EQUIPMENT UTILIZATION AND CARRIER PROFITABILITY HAS RESULTED IN BANKRUPTCIES, MERGERS, AND ACQUISITIONS AND HAS ALTERED CUSTOMERS' RELATIONSHIPS WITH THE FOR-HIRE CARRIERS.

RATIO OF SUPPLY TO DEMAND FOR DRY BULK BARGES

1968 TO 1982



MANAGING IN OUR BUSINESS HAD BEEN TOO EASY. USING 1968 AS AN INDEX, BARGE SUPPLY TRACKED DEMAND ALMOST EXACTLY. SURE YOU GOT SOME MINOR VARIATIONS BUT THEY WERE ALWAYS CORRECTED BY THE NATURAL ACTION IN THE MARKETPLACE.

WHEN YOU ADD TO THIS ALMOST PERFECT MATCH, THE FACT THAT A WELL-MAINTAINED BARGE COULD ALWAYS BE SOLD FOR ITS ORIGINAL COST, YOU KNEW THAT THIS RELATIONSHIP COULDN'T CONTINUE FOREVER. AS A RESULT OF THE OVERCAPACITY CREATED BY THESE TRENDS, SPOT RATES HAVE BEEN REDUCED TO VARIABLE COST LEVELS OR BELOW.

THE IMMEDIATE FUTURE

**Retained earnings and "credit"
running out**

Bankruptcies imminent

**Capacity re-entering market under
new management at lower capital
costs**

OUR SITUATION TODAY IS CRITICAL; CAPACITY IS NOW BEING REORGANIZED AS SOME COMPANIES GO OUT OF BUSINESS. UNFORTUNATELY, THE EQUIPMENT DOES NOT GO AWAY BUT IS PASSED TO OTHER OPERATORS AT LOWER COSTS, PUTTING FURTHER DOWNWARD PRESSURE ON SURVIVING OPERATORS. THIS COMBINATION OF INDUSTRY OVERSUPPLY AND MARKET UNCERTAINTIES POINTS TO THE NEED FOR STRATEGIC PLANNING.

OUR SYSTEM PROVIDES THE TWO ESSENTIALS OF SUCCESSFUL STRATEGIC PLANNING--A PROCESS FOR UNDERSTANDING THE DYNAMICS OF OUR BUSINESS AND KEY INFORMATION ABOUT THE STATUS AND OUTLOOK FOR THE INDUSTRY.

THE USE OF PLANNING, PARTICULARLY STRATEGIC PLANNING, BY MOST COMPANIES IN THE INLAND BARGE INDUSTRY HAS BEEN ALMOST NONEXISTENT. PLANNING DIDN'T SEEM NECESSARY WHEN PROFITS WERE CONSISTENT AND GROWING. SOME BARGE COMPANIES DID SOME PLANNING, BUT USUALLY AS A PART OF THEIR ANNUAL BUDGET PROCESS OR TO JUSTIFY THE PURCHASE OF NEW EQUIPMENT OR AS A ONE-TIME EFFORT IMPOSED BY CORPORATE MANAGEMENT.

INLAND BARGE INDUSTRY USE OF PLANNING

Market conditions determined
need

Public sector experience

Focus on market demand

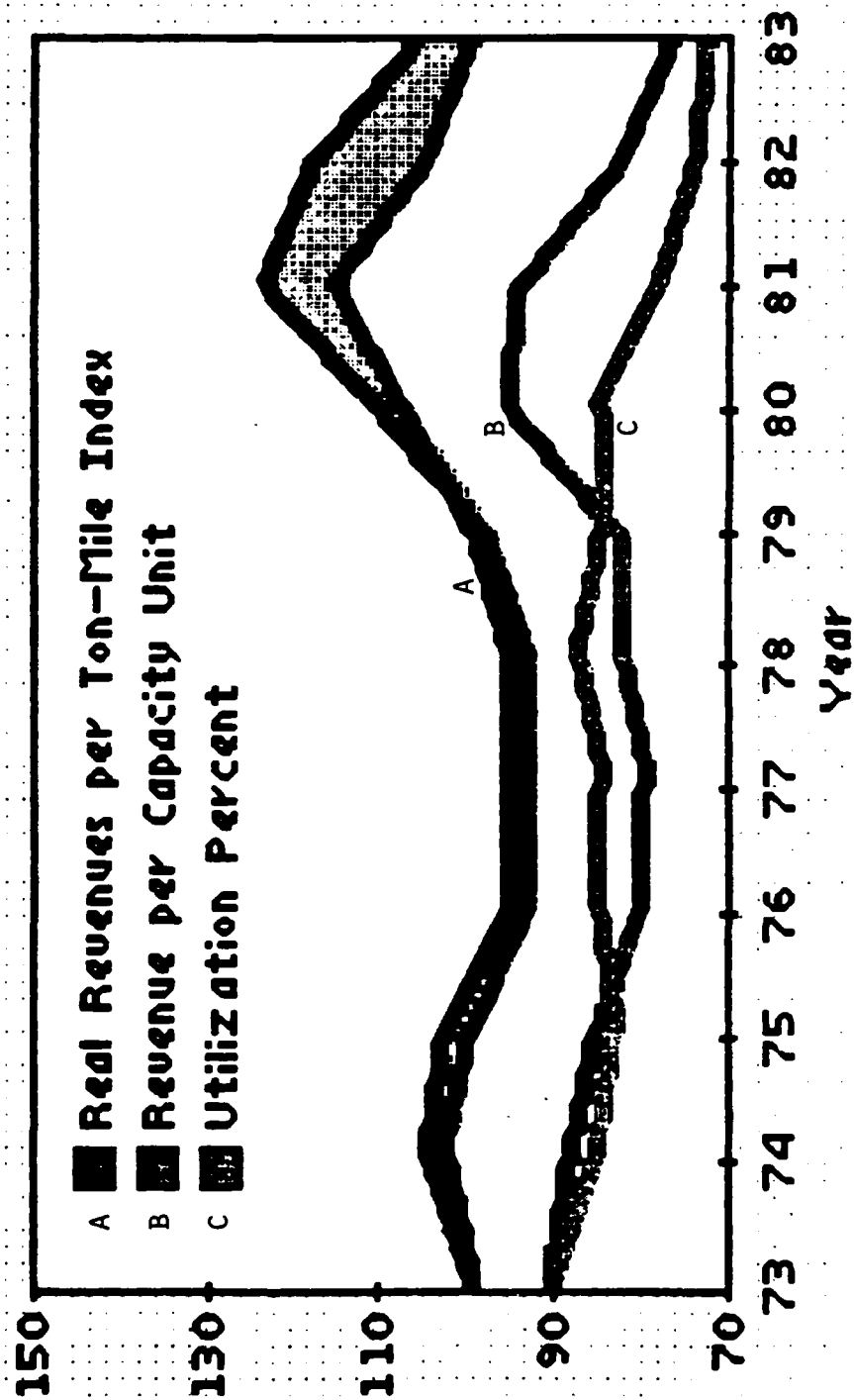
Limited information available

THE MARKET CONDITIONS OF THE LAST TWO YEARS HAVE CONVINCED MANY OF US OF THE NEED AND VALUE OF REAL AND INTENSIVE STRATEGIC PLANNING.

OF COURSE, STUDIES WERE MADE BY INDUSTRY BUT MORE OFTEN BY GOVERNMENTAL AGENCIES. UNFORTUNATELY, MOST OF THESE STUDIES DESCRIBED HISTORICAL CONDITIONS. THEY WERE NOT STRUCTURED TO INCLUDE THE DYNAMICS OF THE INTERACTION OF SUPPLY AND DEMAND.

FURTHERMORE, THE HISTORICAL APPROACH DID NOT IDENTIFY THE COMPLEXITIES OF THIS MARKET IN QUANTITATIVE TERMS, PRIMARILY BECAUSE THERE IS VERY LITTLE PUBLIC DISCLOSURE OF REVENUES, COSTS, AND PROFITS. IN ADDITION, INFORMATION ABOUT INDUSTRY-WIDE TRAFFIC FLOWS AND EQUIPMENT OWNERSHIP IS NOT TIMELY. CORPS OF ENGINEERS DATA, FOR EXAMPLE, ARE TWO YEARS OLD WHEN RELEASED.

REVENUE AND UTILIZATION 1973-1983



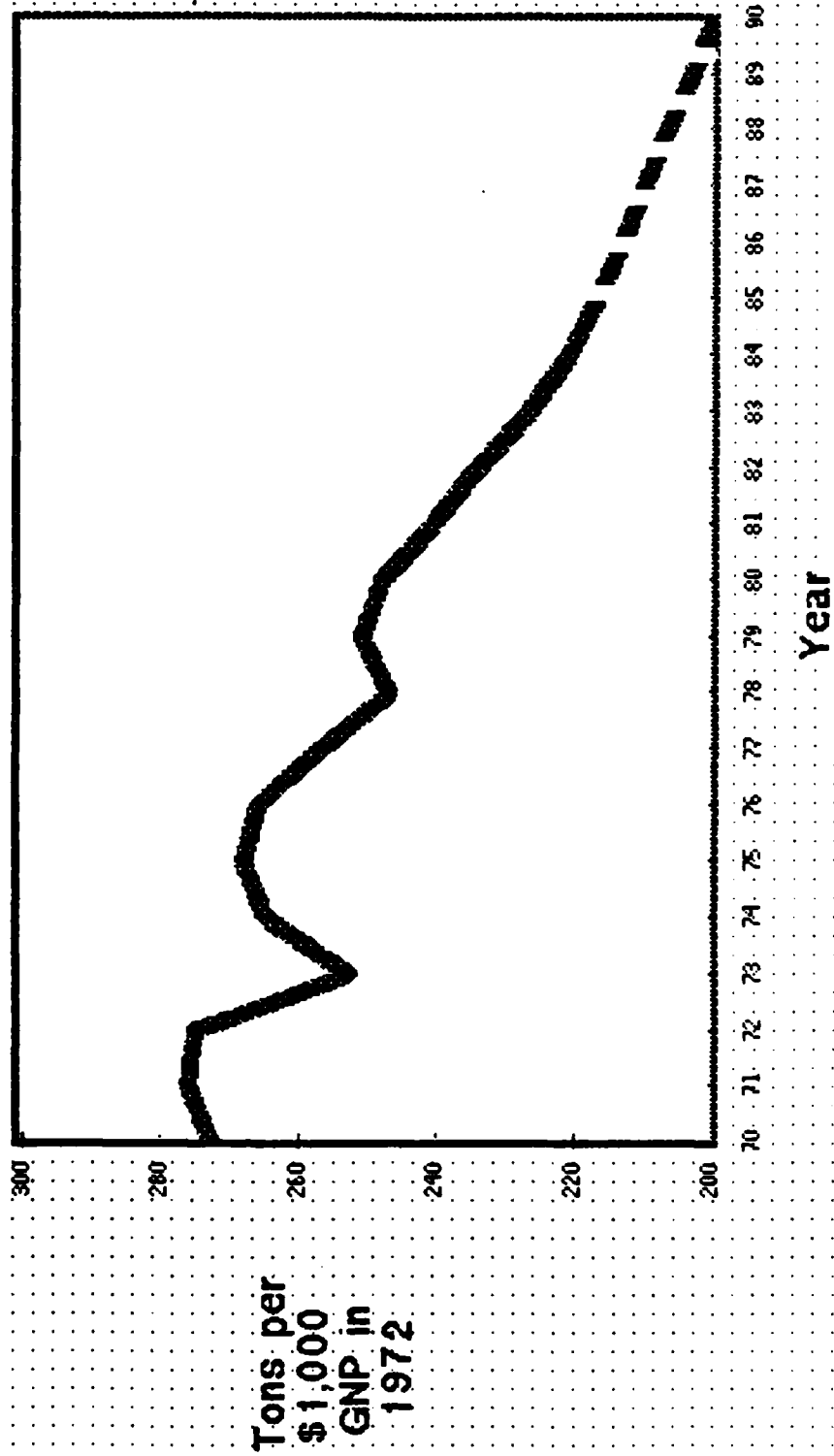
MOST OF THESE ANALYSES DID NOT CAPTURE IMPORTANT CYCLES THAT ARE AT WORK IN OUR INDUSTRY. AS THIS SLIDE INDICATES, THE REAL REVENUE PER TON-MILE INDEX INCREASED DURING THE GRAIN BOOM OF 1974 AND 1975, REMAINED CONSTANT UNTIL THE 1979-1981 CLIMB AND THEN FELL SHARPLY IN 1982. MOST OBSERVERS OF TOTAL TONS AND TOTAL TON-MILES SAW A CONTINUOUS IMPROVEMENT IN BUSINESS DURING THE 1970s, BUT WERE NOT AWARE OF THE ACTUAL SHIFTS IN DEMAND.

THE RANGE IN THE REVENUES PER TON-MILE INDEX DURING 1980 TO 1983 SHOWN BY THE SHADED AREA SHOWS THE LOWER REVENUES FOR THOSE CARRIERS EXPOSED TO SPOT MARKET RATES DURING THE PERIOD OF DECLINE.

THE VARIATION IN FLEET UTILIZATION PERCENTAGE IS INTERESTING. IT DECREASED IN THE EARLY 1970s, STAYED CONSTANT UNTIL NEW GROWTH IN 1980, AND THEN DROPPED RAPIDLY IN 1981--THE YEAR OF HIGHEST PROFITABILITY FOR MANY COMPANIES. MUCH OF THESE PROFITS CAME FROM BARGES BEING USED TO STORE, NOT TRANSPORT, GRAIN AND PETROLEUM. THUS COMPANY PROFITS STAYED CONSTANT OR EVEN INCREASED DURING THIS PERIOD OF DECREASING UTILIZATION OF BARGES FOR TRANSPORTATION.

THE POINT HERE IS THAT THE INDUSTRY HAS BEEN OPERATING IN A CYCLICAL AND CHANGING MARKET, BUT ALL OF US WEREN'T AWARE OF THE SERIOUSNESS AND SIGNIFICANCE OF THESE CYCLES BECAUSE WE WERE STILL MAKING MONEY AND OVERALL GROWTH WAS GOOD. NOW THAT WE ARE HURTING, WE NEED TO BETTER UNDERSTAND THE FACTORS THAT CAUSED THE PAIN.

MISSISSIPPI TONNAGE AND THE U.S. ECONOMY 1970-1983



ANOTHER EXAMPLE OF HOW MOST OF THE INDUSTRY (AND GOVERNMENT AGENCIES) FAILED TO RECOGNIZE THE DYNAMICS OF THE MARKETPLACE IS SHOWN HERE. EVEN THOUGH THE GOOD YEARS OF THE 1970s AND EARLY 1980s PRODUCED SUCCESSIVE RECORD AMOUNTS OF BARGE TRAFFIC, THE IMPORTANCE OF THAT TRAFFIC TO THE U.S. ECONOMY WAS IN A LONG TERM DECLINE.

BY MEASURING THE TONS CARRIED FOR EVERY THOUSAND DOLLARS OF GROSS NATIONAL PRODUCT FOR EACH YEAR, YOU CAN SEE A CONTINUING LONG-TERM DROP IN THE USE OF BARGE FREIGHT IN THE ECONOMY RATHER THAN THE INCREASE IN TOTAL TONS CARRIED THAT SO MANY OF US SAW.

STRATEGIC PLANNING FOR INDUSTRY DYNAMICS

Timing is critical

Limitations of intuition and experience

- Good times
- Bad times

Limitations of historical analysis

- Inconsistent
- Continuing trends
- Relevance of models

A KEY FUNCTION FOR COMPANY MANAGERS IS TIMING. WE HAVE TO TIME OUR SERVICES, REVENUE FLOWS, AND EQUIPMENT ACQUISITIONS IN THE BEST POSSIBLE WAY. IF WE KNOW WHEN TO LOCK INTO CONTRACTS, WHEN TO GO ON THE SPOT MARKET, WHEN TO INVEST, WHEN NOT TO, AND WHEN TO LAY UP, THEN WE CAN OPTIMIZE THE BUSINESS.

TO MAKE THESE DECISIONS AT THE RIGHT TIMES, WE NEED BETTER INFORMATION AND STRATEGIC PLANNING TOOLS. THE PROPER DECISIONS ARE BASED ON EVALUATIONS OF TRENDS AND CYCLES.

IN THE PAST, MOST BARGE COMPANIES HAVE RELIED ON INTUITION AND EXPERIENCE. UNFORTUNATELY, THIS EXPERTISE WAS DEVELOPED DURING A PERIOD OF PROSPERITY, AND MAY OFFER LIMITED HELP DURING BAD TIMES.

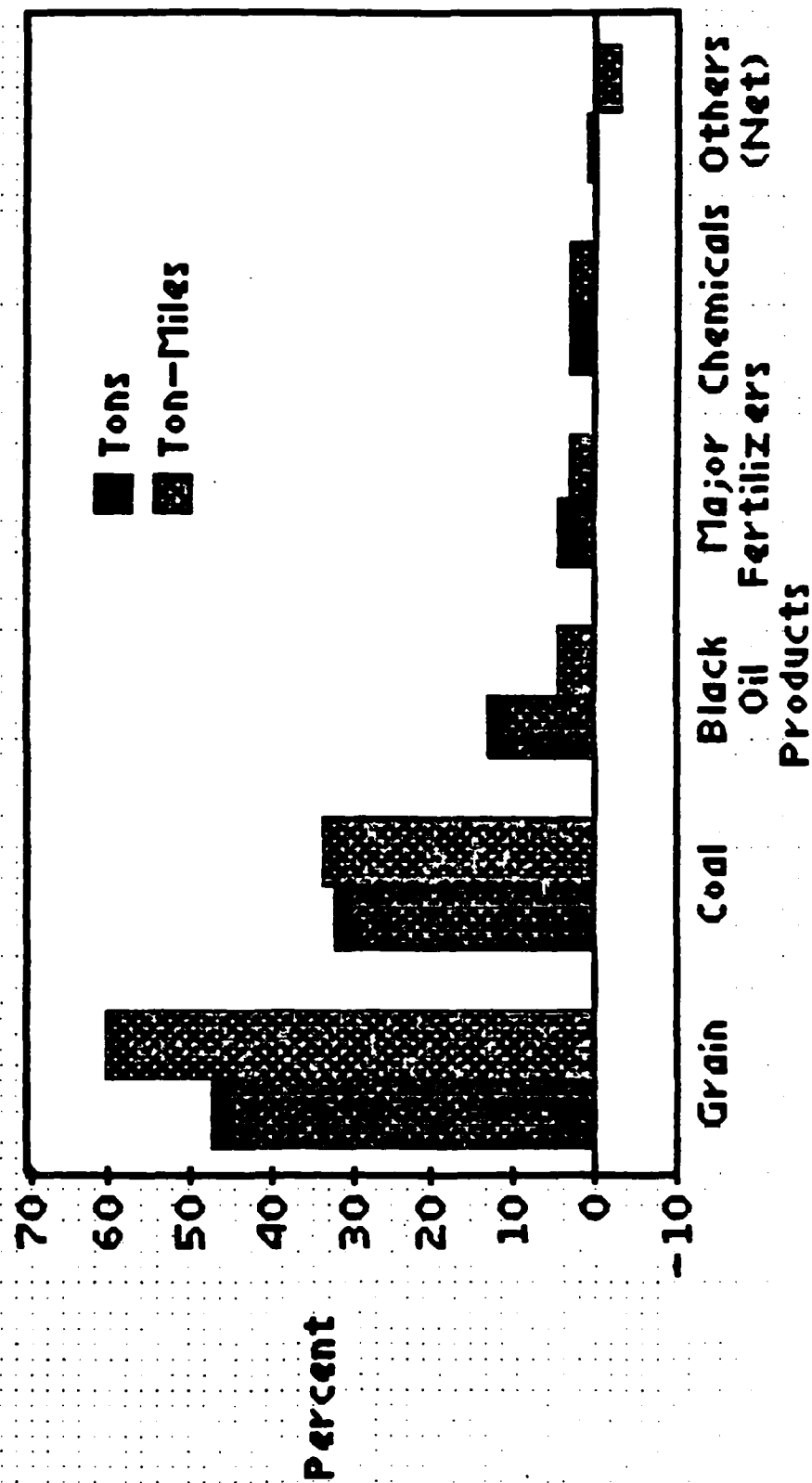
AND NOW, WHEN TIMES ARE BAD, MUCH OF OUR INDUSTRY'S INTUITION SAYS THAT THE MARKET WILL IMPROVE SOON. THAT INTUITION MAY JUST BE WISHFUL THINKING.

THE HISTORICAL ANALYSES AND PROJECTIONS OF DEMAND TYPICALLY AVAILABLE IN OUR INDUSTRY HAVE LIMITATIONS FOR STRATEGIC PLANNING.

FIRST, THEY ARE GENERALLY ONE-TIME FORECASTS. THEY ARE NOT CONSISTENTLY DEVELOPED, NOR ARE THEY VERIFIED. SECOND, THE TREND ANALYSIS THAT IS ALMOST ALWAYS USED DEPENDS ON THE PAST AND GENERALLY DOES NOT IDENTIFY MANY FUTURE CHANGES. THIRD, THE MODELS AND THEORIES ARE GENERALLY ABSTRACT AND HAVE LOW CREDIBILITY OR USEFULNESS WITH OPERATING PEOPLE. THE APPROACH WE HAVE DEVELOPED TO STRATEGIC PLANNING IS NOT A TOTAL BREAK WITH PAST METHODS.

RATHER, IT PROVIDES THE PROPER FRAMEWORK AND INFORMATION FOR IMPROVING BOTH ON INTUITION AND PERSONAL EXPERIENCE. INCORPORATING VARIOUS ENVIRONMENTAL AND HISTORICAL ANALYSES, THIS FRAMEWORK IS AN OBJECTIVE METHOD FOR TESTING THE IMPACT OF ALTERNATIVE SCENARIOS ON AN ORGANIZATION'S FUTURE SUCCESS.

MISSISSIPPI TRAFFIC 1970-1981



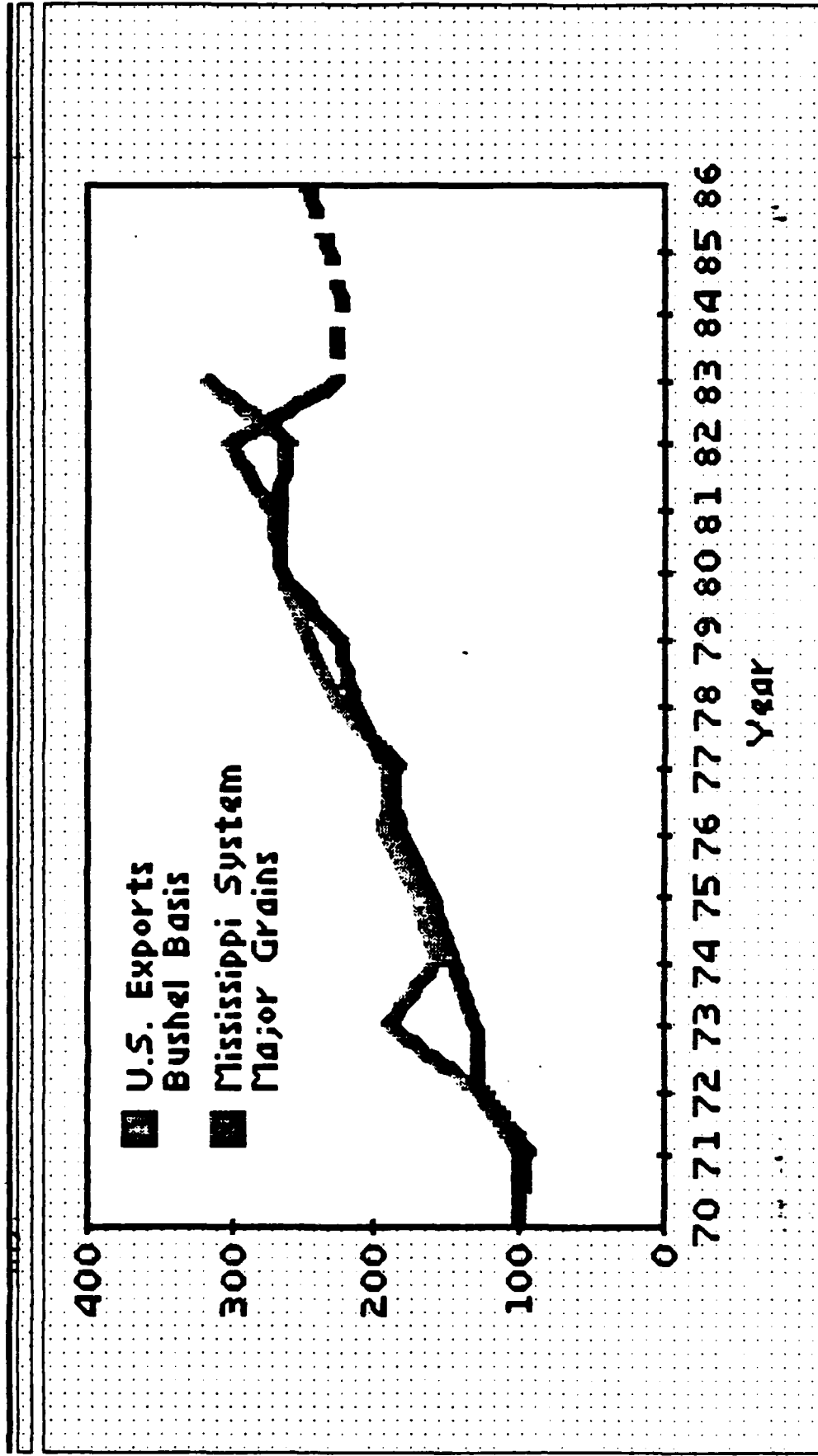
NOW I WOULD LIKE TO SHARE WITH YOU SOME OF THE INFORMATION THAT WE DEVELOPED. IT FOCUSES ON THE MAJOR DYNAMICS OF THE INDUSTRY: FIRST, THE DEMAND FOR BARGE SERVICES AND, SECOND, THE LESS-UNDERSTOOD SUPPLY SIDE OF THE INDUSTRY. BRENT DIBNER WILL EXAMINE CLOSELY HOW THESE NUMBERS WERE DEVELOPED.

TO BEGIN, LET'S LOOK AT THE PERCENT CHANGES IN TRAFFIC ON THE MISSISSIPPI RIVER SYSTEM DURING THE GROWTH PERIOD FROM 1970 TO 1981. GROWTH WAS HIGHLY CONCENTRATED IN GRAIN AND COAL TRAFFIC, BOTH IN TONS AND TON-MILES.

TRAFFIC IN BLACK OIL PRODUCTS INCREASED BECAUSE OF CHANGES IN CRUDE SUPPLY AND REFINERY INFRASTRUCTURE. FERTILIZER SHIPMENTS INCREASED, BUT NOT IN STEP WITH THE RISE IN GRAIN TRAFFIC. CHEMICAL TRAFFIC ROSE SLIGHTLY TO MEET INCREASED PRODUCTION NEEDS IN THE GULF AREAS.

OVERALL, GROWTH WAS STRONG IN THE 1970s. BUT AS YOU WILL SEE LATER, MAJOR NEW FLEET ADDITIONS WERE MADE BY PEOPLE THAT CONTROLLED THE GRAIN AND COAL SHIPMENTS.

INLAND GRAIN TRAFFIC: KEY INDICATORS



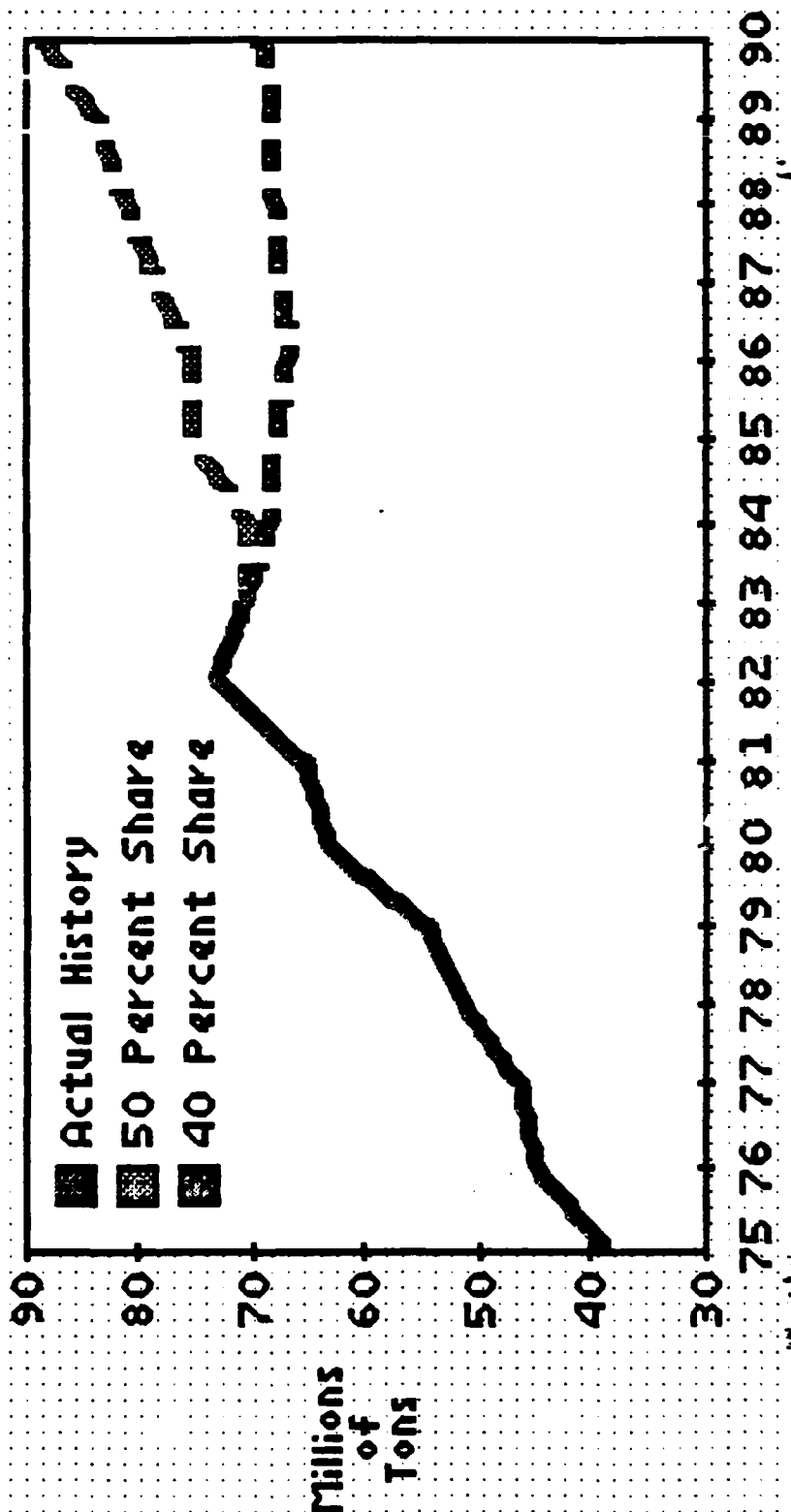
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THE GRAIN EXPORT MARKET CHANGED IN THE LATE 1970s AND EARLY 1980s BECAUSE OF THE STRONG DOLLAR, RUSSIAN TRADE EMBARGOES, COMPETITION FROM CANADA, ARGENTINA, BRAZIL, AND AUSTRALIA, AS WELL AS REDUCED U.S. PRODUCTION AND HIGH U.S. COMMODITY PRICES, TOTAL EXPORTS LEVELED OFF AND ACTUALLY DECLINED SLIGHTLY.

AS THE INDICES ON THE GRAPH SHOW, BARGE GRAIN TRAFFIC ON THE MISSISSIPPI RIVER SYSTEM GREW AT THE SAME PACE AS ALL U.S. EXPORTS, IN THE 70s BUT DID NOT DECLINE WITH EXPORTS IN 1980 AND 1981. AS BARGE RATES DROPPED DRAMATICALLY, THE BARGE INDUSTRY WAS ABLE TO ATTRACT CARGO FURTHER INLAND FROM THE RIVER.

MISSISSIPPI RIVER SYSTEM GRAIN TRAFFIC

FORECASTS UNDER DIFFERENT SHARES

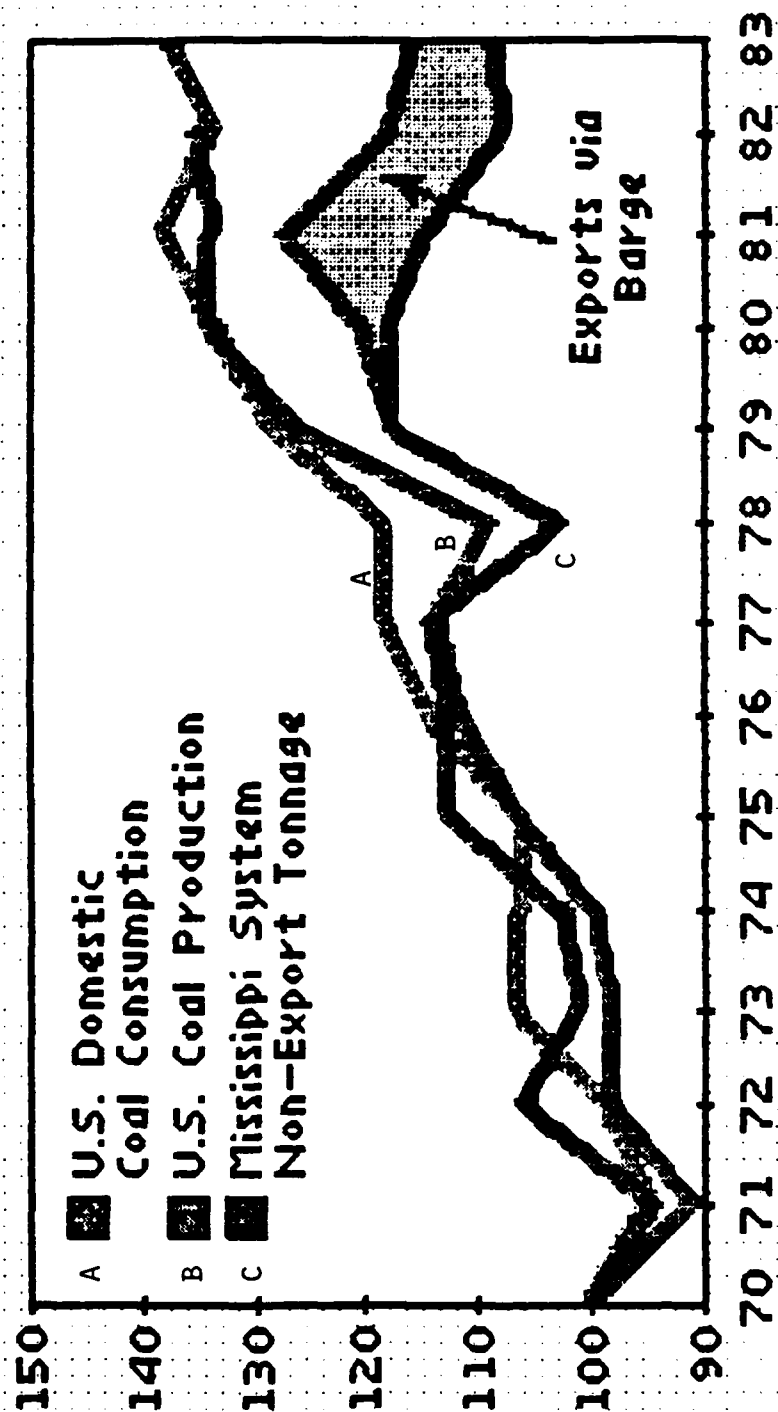


THIS SLIDE SHOWS OUR FORECASTS OF GRAIN SHIPMENTS FOR THE MISSISSIPPI RIVER SYSTEM.

TWO FORECASTS WERE MADE TO INDICATE THE RANGE OF TONS SHIPPED DUE TO VARIATIONS IN THE MARKET SHARE OF MISSISSIPPI RIVER TRAFFIC COMPARED TO TOTAL U.S. EXPORTS. THE TOP LINE IS WHAT YOU WOULD GET USING HISTORICAL FORECASTING METHODS.

OUR FUTURE SHARE IS DIRECTLY RELATED TO THE INVERSE OF BARGE RATES. AS RATES INCREASE, THE RIVER'S SHARE OF THE U.S. EXPORTS WILL DECLINE. OUR PREMISE IS THAT BARGE RATES CANNOT STAY AT 1982 AND 1983 LEVELS. CONSEQUENTLY, OUR SHARE OF EXPORTS WILL RETURN CLOSER TO THE 40 PERCENT SHARE. THUS, THE GREEN DOTTED LINE IS MORE REALISTIC.

INLAND COAL KEY INDICATORS



DOMESTIC COAL SHIPMENTS GREW DURING THE 1970s BUT TURNED DOWN IN 1981 AS STEEL PRODUCTION FELL OFF AND UTILITY INVENTORIES WERE REDUCED. SHIPMENTS FOR EXPORT BUILT UP RAPIDLY. HOWEVER, MISSISSIPPI RIVER PORTS ARE SURGE EXPORT POINTS, SO THEY ARE SUBJECT TO WIDE SWINGS OF UTILIZATION WHEN NATIONAL EXPORT DEMAND SHIFTS.

WE ANTICIPATE SLOW DOMESTIC GROWTH IN COAL BARGE MOVEMENTS AS STEEL RECOVERS TO 1981 LEVELS AND UTILITY DEMAND INCREASES MODERATELY. COAL EXPORT GROWTH WILL BE CONSTRAINED BY HIGH F.O.B. PRICES, A STRONG DOLLAR, EXPORTS FROM OTHER COASTAL PORTS, AND SUBSTANTIAL WORLDWIDE COMPETITION. COLUMBIA AND SOUTH AFRICA, IN PARTICULAR POLAND IS ALREADY BACK TO PRE-TURMOIL LEVELS.

FUTURE DEMAND

Gradual growth in major bulks

Slow decline in petroleum products

Chemicals stable

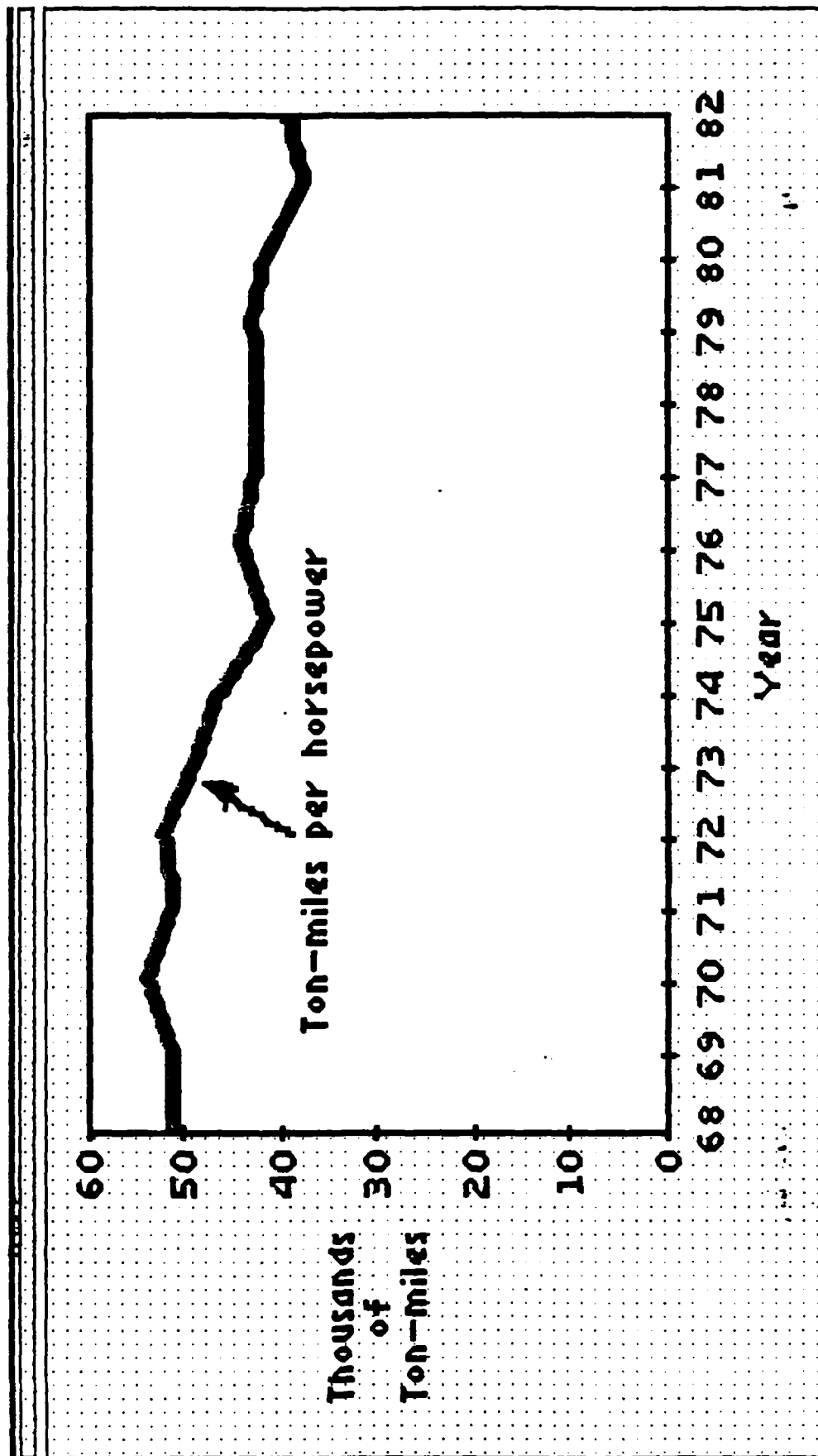
Coal recovery by late 1980s

Moderate grain increase

OVERALL, WE ANTICIPATE GRADUAL GROWTH IN SHIPMENTS OF MAJOR BULK COMMODITIES, BOTH DRY AND LIQUID. PETROLEUM PRODUCT MOVEMENTS WILL CONTINUE THEIR SLOW DECLINE, BUT CHEMICAL SHIPMENTS WILL BE STABLE. COAL TRAFFIC WILL NOT RECOVER UNTIL THE END OF THIS DECADE, IF THEN, AND BARGE MOVEMENTS OF GRAIN WILL SHOW ONLY MODERATE GAINS DURING THIS PERIOD.

OBVIOUSLY, UNUSUAL SHOCKS SUCH AS ENERGY READJUSTMENTS OR MAJOR GRAIN SHORTAGES ABROAD ARE NOT PREDICTABLE. HOWEVER, THE EFFECTS OF SUCH EVENTS WILL BE RELATIVELY SHORTLIVED, LASTING AT MOST ONE TO TWO YEARS.

TOWBOAT FLEET PRODUCTIVITY

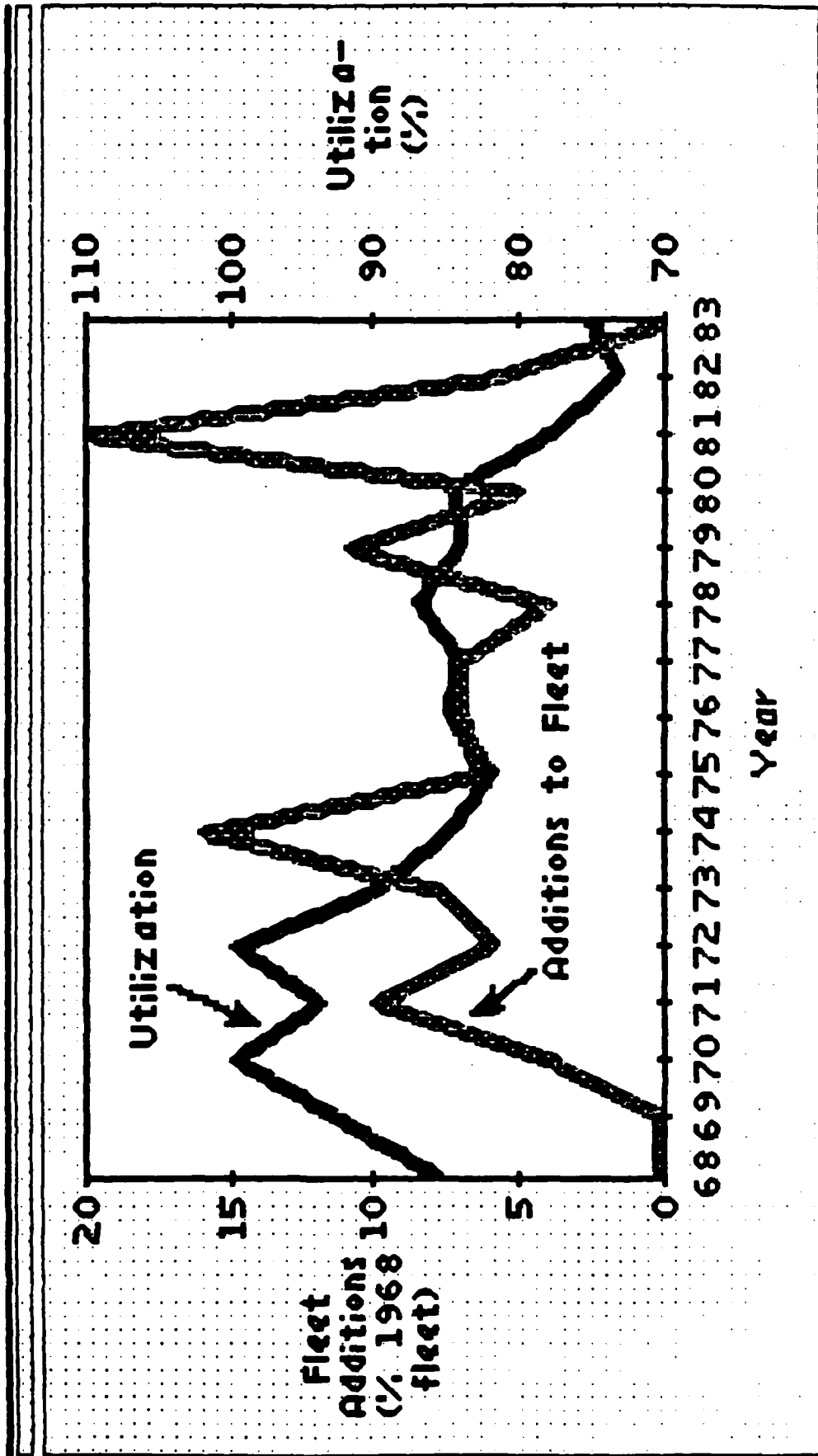


PRODUCTIVITY OF TOWBOATS HAS BEEN DECREASING SINCE THE LATE 1960s, FROM 50,000 TON-MILES PER AVAILABLE HORSEPOWER TO APPROXIMATELY 40,000 TON-MILES SINCE 1982.

THIS DECLINE IS DUE TO OVERBUILDING OF TOWBOATS, RUNNING SLOW TO CONSERVE FUEL, AND INCREASED CONGESTION ON SOME WATERWAYS.

UTILIZATION AND BARGE FLEET ADDITIONS

1968-1983



THIS SLIDE COMPARES UTILIZATION OF THE BARGE FLEET TO HISTORICAL INCREASES IN THE SIZE OF THE FLEET. IN 1968, THE BASE YEAR, UTILIZATION WAS AT 85 PERCENT. THE HIGH 1969-1972 UTILIZATION LED TO THE SIGNIFICANT ADDITIONS TO THE FLEET BETWEEN 1971 AND 1974.

THERE WAS REALLY NO LOGIC FOR THE DRAMATIC INCREASE IN ORDERS IN 1979 THROUGH 1981. NOW BARGES WERE IN TIGHT SUPPLY IN 1980 AND 1981, BUT IT WAS A COMBINATION OF MANY, MANY TEMPORARY FACTORS, NONE OF WHICH CHANGED GHIS BASIC FACT THAT LONG-TERM BARGE SUPPLY WSA SIGNIFICANTLY OUTPACING DEMAND.

LET'S REMEMBER WHAT SOME OF THOSE THINGS WERE THAT CAPTURED OUR IMAGINATION AND MADE US FORGET WHAT WAS REALLY GOING ON IN OUR BUSINESS.

--I CAN REMEMBER ON ANY GIVEN DAY THERE WOULD BE 3,000 GRAIN BARGES WAITING TO UNLOAD IN NEW ORLEANS.

--DO YOU REMEMBER THE PICTURES OF SHIPS LAYING AT ANCHOR OFF NORFOLK, WHICH CAUSED FOREIGN BUYERS TO PAY \$5 OR \$6 PER TON MORE FOR COAL THROUGH NEW ORLEANS.

--I REMEMBER ONE BARGE COMPANY CARRYING COAL FROM THE OHIO RIVER TO ST. LOUIS, RELOADING THE SAME BARGES WITH COAL OF VERY SIMILAR QUALITY AND BRING IT BACK TO THE OHIO RIVER.

--LOADED PETROLEUM TOWS REGULARLY MET ONE ANOTHER CARRYING THE SAME PRODUCT TO OPPOSITE DESTINATIONS.

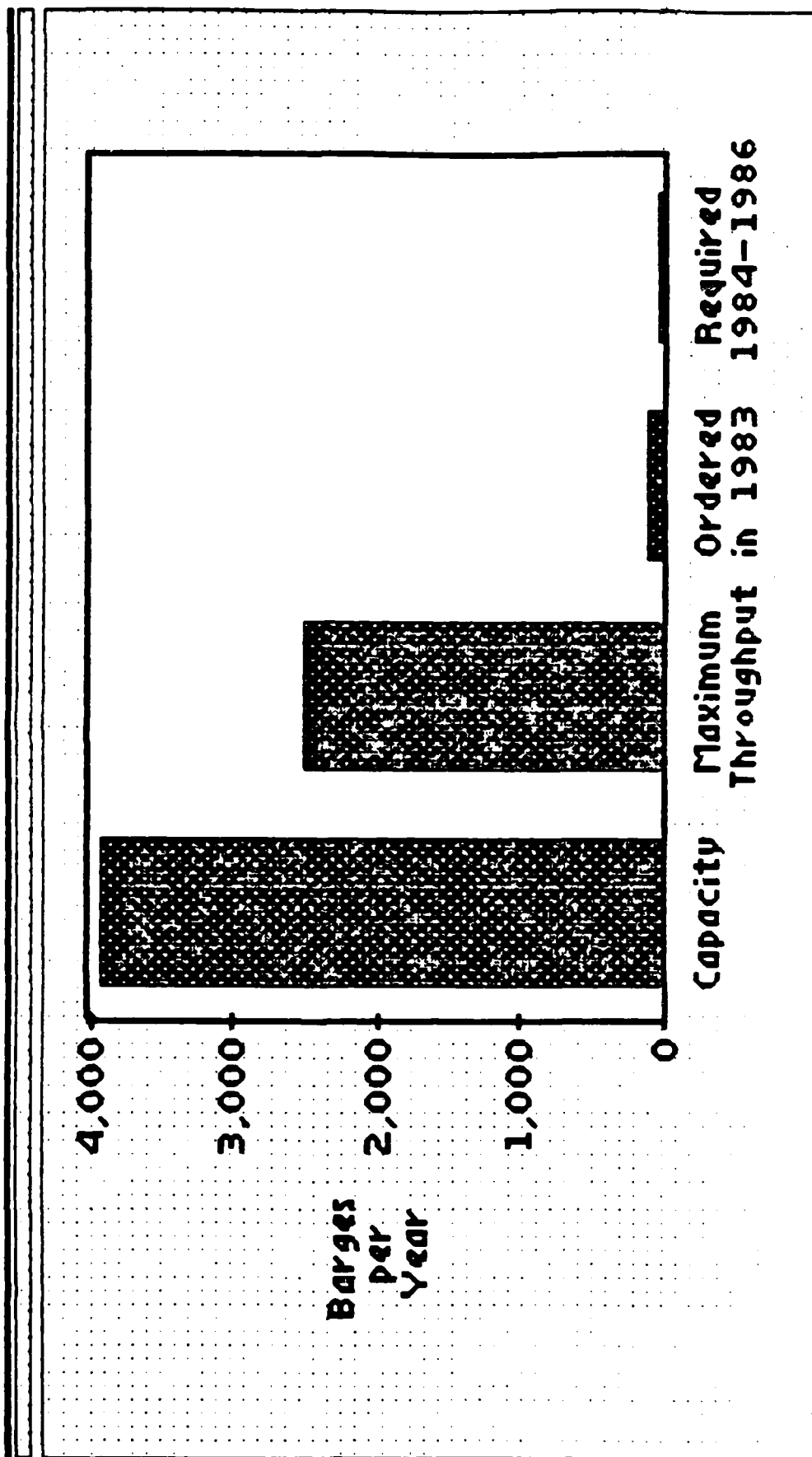
--CRUDE OIL TOWS DID THE SAME.

--AND I SUSPECT SOME OF THEM WERE BUSY MAKING NEW OIL OUT OF OLD. THINK AT THOSE NONE OF THEM NONE OF THEM CREATING REAL LONG-TERM DEMAND.

BY 1982, ORDERS FOR NEW BARGES FELL TO MINIMAL LEVELS. DURING THE ENTIRE PERIOD, SUPPLY CONSISTENTLY EXPANDED MORE RAPIDLY THAN DEMAND.

WITH A BETTER UNDERSTANDING OF THE DYNAMICS OF SUPPLY AND DEMAND, SOME OF THESE WIDE SWINGS IN UTILIZATION AND FLEET ADDITIONS WOULD HAVE BEEN MODERATED. IF WE CAN GIVE THE INDUSTRY JUST ONE THING IT WOULD BE THAT ANALYSIS AND FORECAST OF THE SUPPLY DEMAND FACTORS AND APPROPRIATE INDUSTRY REACTION COULD HAVE AVOIDED MUCH OF OUR CURRENT HURT.

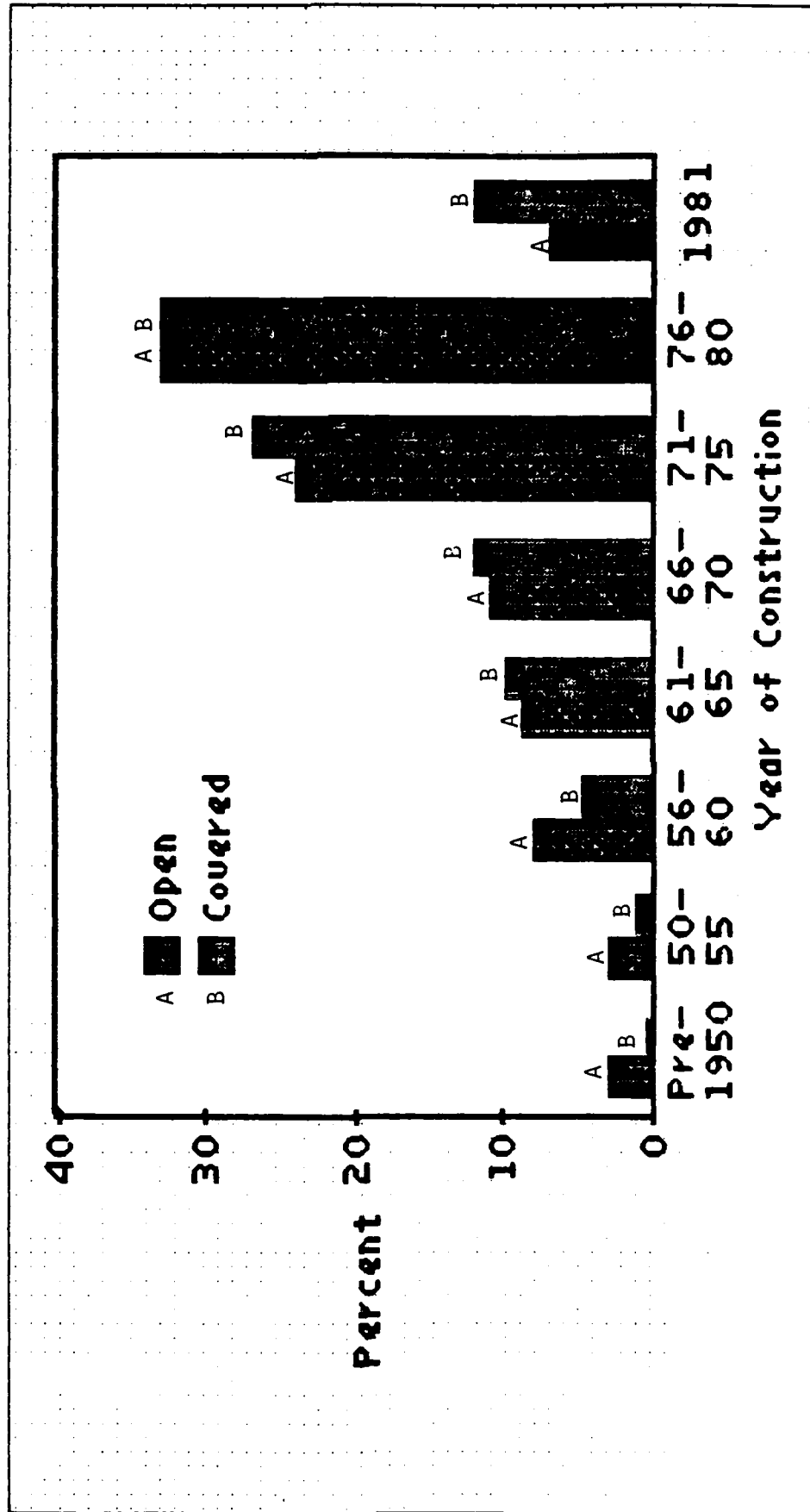
CONSTRUCTION CAPACITY, UTILIZATION, AND DEMAND



THE IMPACT OF OVERCAPACITY ON THE BARGE CONSTRUCTION YARDS IS CLEARLY SHOWN IN THIS SLIDE. THE U.S. NOW HAS ENOUGH CAPACITY TO BUILD ALMOST 4,000 BARGES EACH YEAR. THE HIGHEST NUMBER OF BARGES BUILT IN ANY YEAR WAS ABOUT 2,500. VERY FEW BARGES WERE ORDERED IN 1983 AND FEWER STILL WILL BE REQUIRED FROM 1984 TO 1986.

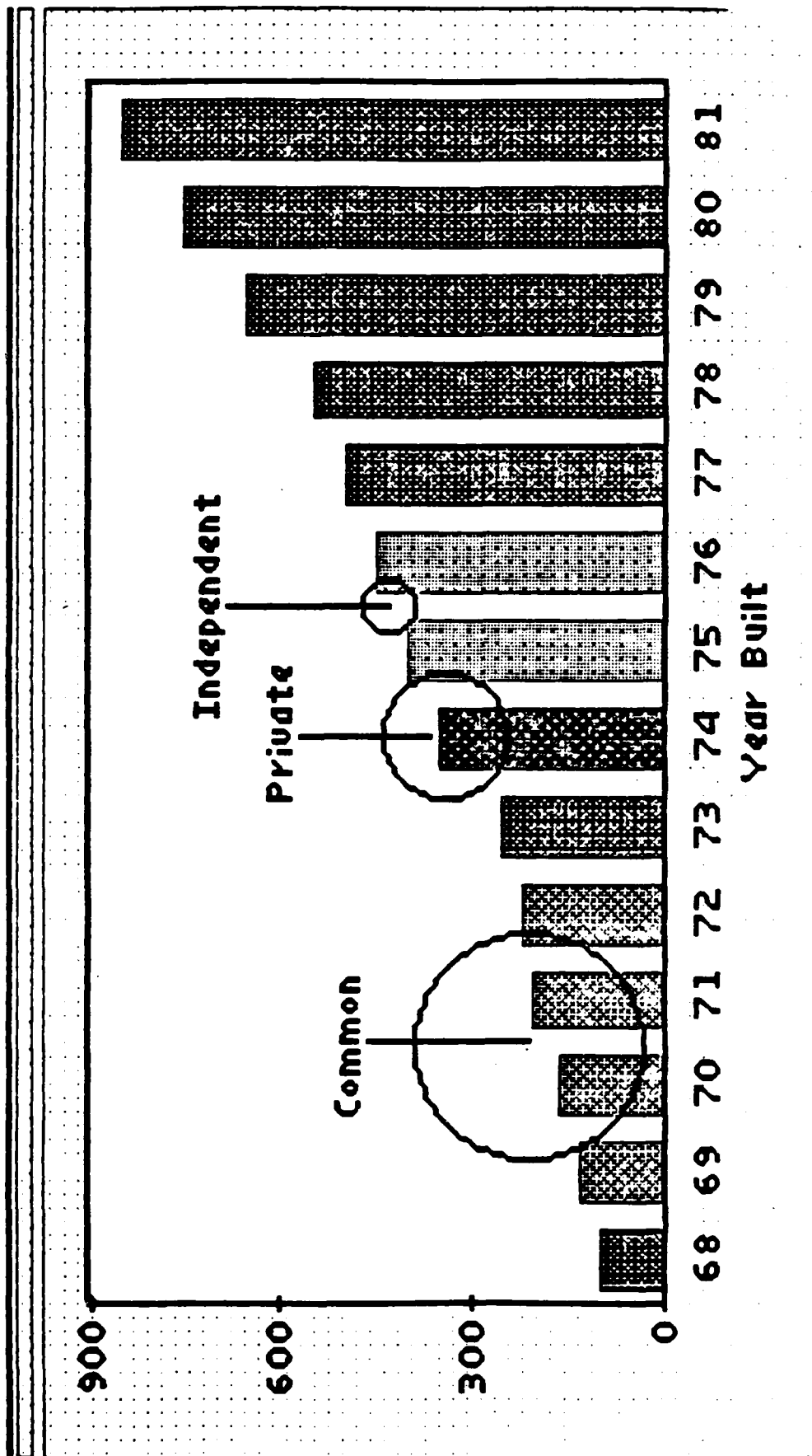
SOME YARDS HAVE PERMANENTLY CLOSED AND OTHERS HAVE TEMPORARILY SHUT DOWN. CONSTRUCTION CAPACITY STILL GREATLY EXCEEDS ANY FORECAST OF LONG-TERM DEMAND.

AGE OF FLEET



A MAJOR PORTION OF THE BARGE FLEET WAS BUILT DURING THE 1970s. HOWEVER, SOME OPEN HOPPER BARGES ARE 80 YEARS OLD AND SOME COVERED HOPPER BARGES ARE 40 YEARS OLD. SIGNIFICANT NUMBERS OF BARGES WERE BUILT BEFORE 1963.

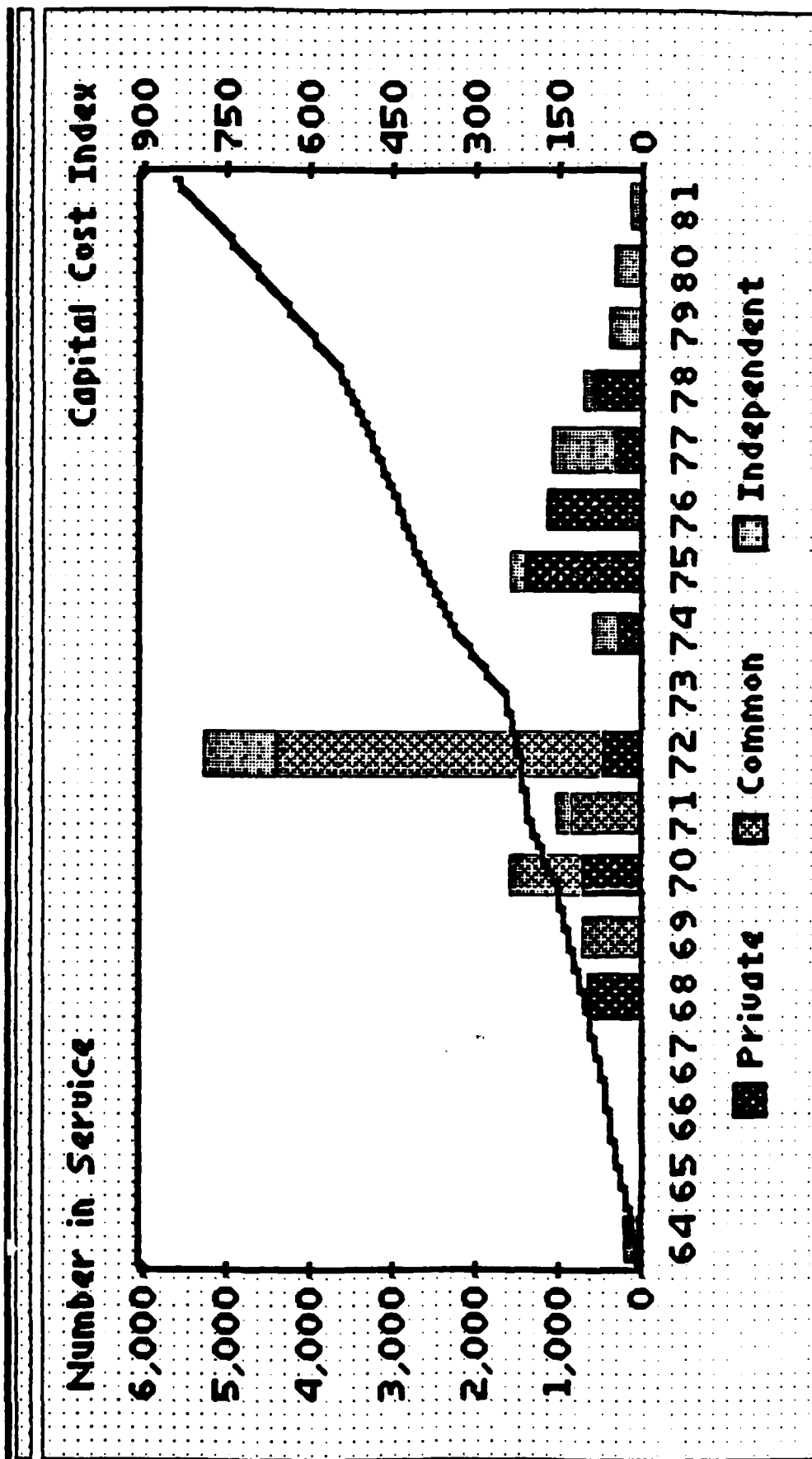
CAPITAL COST: HOPPER BARGE FLEET BY CARRIER TYPE



THE FIXED COST OF EACH OPERATOR'S HOPPER BARGE FLEET IS DETERMINED BY THE YEAR THAT EACH BARGE WAS BUILT. INFLATION INCREASED COSTS OVER THE YEARS AND DEPRECIATION HAS REDUCED THE BOOK VALUE OF OLDER BARGES.

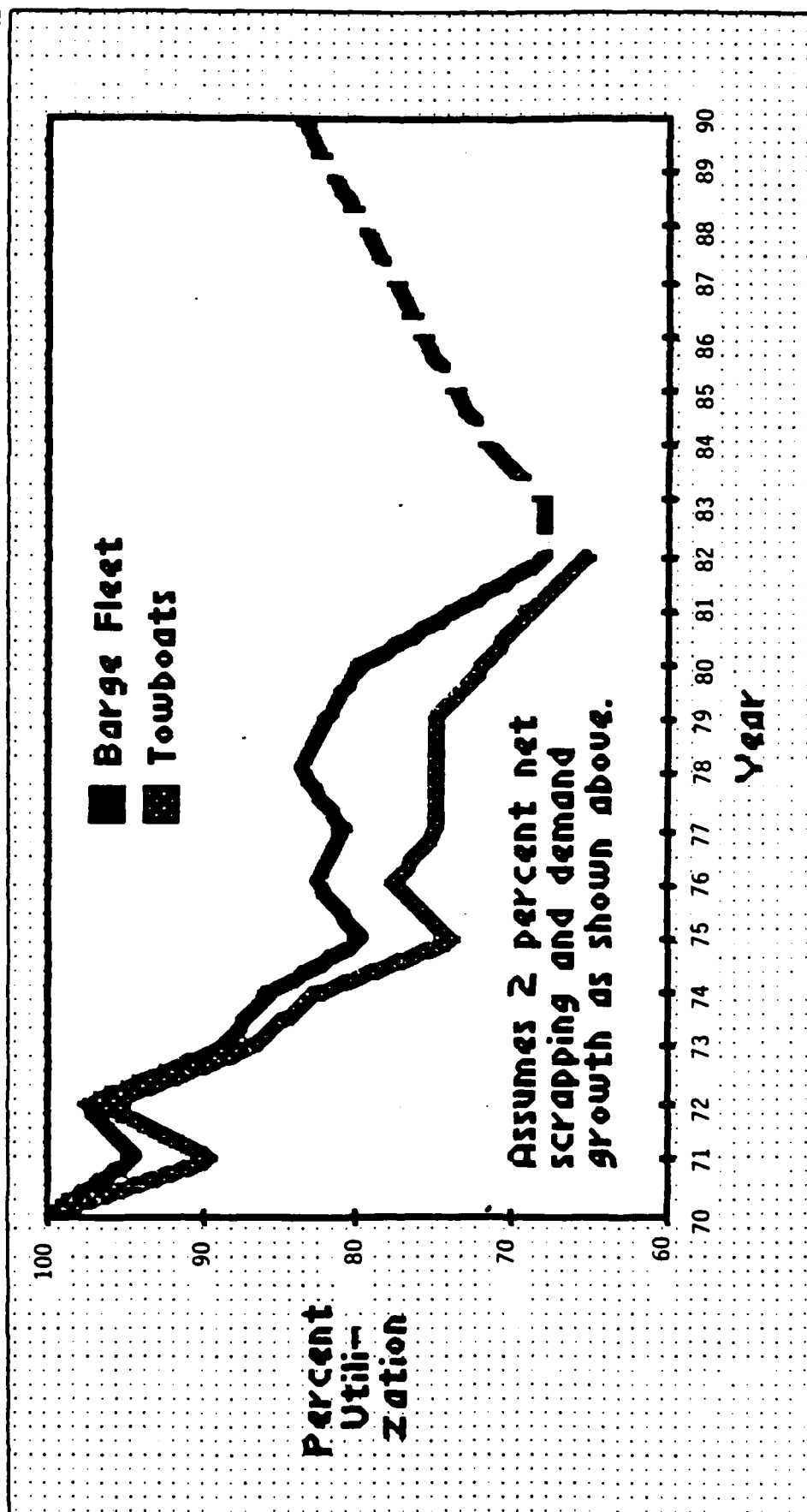
OVERALL, THE COMMON CARRIERS--THAT IS, THE LARGER DIVERSIFIED SERVICE CARRIERS--HAVE OLDER, LESS EXPENSIVE EQUIPMENT. PRIVATE OWNERS, INCLUDING SOME GRAIN COMPANIES, BOUGHT THEIR EQUIPMENT IN THE EARLY 1970s. THE INDEPENDENT OPERATORS HAVE MANY OF THE NEWER, HIGHER COST BARGES INTRODUCED INTO THE FLEET BY OUTSIDE INVESTORS. THESE BARGES WILL ALSO HAVE A MUCH SHORTER LIFE BECAUSE THEY WERE BUILT TO MUCH LOWER STANDARDS THAN THE BARGE LINES FLEETS.

AGE AND COST DISTRIBUTION: COVERED BARGE FLEET



THIS SLIDE SHOWS THE NUMBER OF COVERED HOPPER BARGES HELD BY EACH SECTOR, ARRANGED BY AVERAGE YEAR OF CONSTRUCTION OF VESSELS IN THE FLEET. THE CAPITAL COST INDEX SHOWS THE SAME RELATIVE GROWTH IN COST AS THE PREVIOUS SLIDE.

UTILIZATION OF TOWBOATS AND BARGES ON MISSISSIPPI AND GULF INTRA-COASTAL SYSTEMS



WE ANTICIPATE THAT THE UTILIZATION RATES FOR TOWBOATS AND BARGES WILL IMPROVE WHEN DEMAND GROWS IN THE MID- AND LATE-1980s AND EXCESS BARGE CAPACITY IS SCRAPPED. STILL IT'S A LONG WAY BACK TO LOGICAL UTILIZATION RATES.

IN 1985, 4,500 COVERED HOPPER BARGES WILL BE OVER 15 YEARS OLD. THIS IS ALMOST HALF THE CURRENT OPEN FLEET. LOW UTILIZATION WILL CONTINUE TO DEPRESS FREIGHT RATES, FINANCIAL RETURNS, AND NEW CONSTRUCTION.

THE SCRAPPING PACE MAY BE TOO LITTLE, TOO LATE. SCRAPPING IS NOW UP: 150 BARGES IN 1980, 500 IN 1983. HOWEVER, THE ANNUAL RATE OF REDUCTION IS STILL ONLY 2 PERCENT. THE INDUSTRY PROBABLY NEEDS A SCRAPPING RATE OF 1,000 HOPPER BARGES PER YEAR FOR SEVERAL YEARS.

INDIVIDUAL COMPANIES MUST MAKE APPROPRIATE STRATEGIC DECISIONS OR THE ENTIRE INDUSTRY, AS WELL AS SHIPPERS THAT RELY ON THEM, WILL BE PROFOUNDLY AFFECTED.

AS THE INDUSTRY COMES OUT OF RECESSION, SURVIVORS AS A GROUP NEED TO CONTINUE TO REDUCE FLEET CAPACITY TO ACCELERATE RECOVERY. OTHERWISE, THEY WILL FIND THEMSELVES DRIVE TO LOW-COST, LOW-RISK, AND REACTIVE STRATEGIES THAT WOULD ULTIMATELY RESULT IN REDUCED SERVICE AND INDUSTRY CAPABILITY.

NOW BRENT DIBNER OF TBS WILL DESCRIBE THE FORECASTING METHODS AND THE RESULTS OF THOSE FORECASTS.



Inland Barge and Towing Industry Forecasts

BRENT DIBNER

**TRB / AWO Midyear Meeting
August 13, 1984**

DRAVO MECHLING CORPORATION
TEMPLE, BARKER & SLOANE, INC.

OBJECTIVES

Review current market conditions

Relate past decisions to today's conditions

Examine implications for the future

AGENDA



Current Market Conditions

Fleet Development

Traffic Analysis and Forecasts

- Grain traffic
- Coal traffic
- Crude oil traffic
- Products traffic
- Fertilizer traffic

Implications of Oversupply

INLAND BARGE INDUSTRY USE OF PLANNING

Market conditions determined need

**Public sector provided quantitative
market insights**

**Public sector focused on demand
side**

Limited information is available

STRATEGIC PLANNING FOR INDUSTRY DYNAMICS

Timing is critical

Limitations of intuition and experience

- **Good times**
- **Bad times**

Limitations of historical analysis

- **Inconsistent**
- **Continuing trends**
- **Relevance of models**

THE CURRENT SITUATION

Inland transportation industry no longer financially healthy or growing

Market environment dramatically altered

Leading carriers suffering losses

Other carriers' profits declining

Regulatory and intermodal environment changing rapidly and profoundly

REVENUES 1973-1983

Both revenues per ton-mile and utilization declining

Revenue per unit capacity hit new low in 1983

Even lower revenues expected for carriers exposed to spot market rates

Every carrier now feeling effects

THE IMMEDIATE FUTURE

**Retained earnings and "credit"
running out**

Bankruptcies imminent

**Capacity re-entering market under
new management at lower capital
costs**

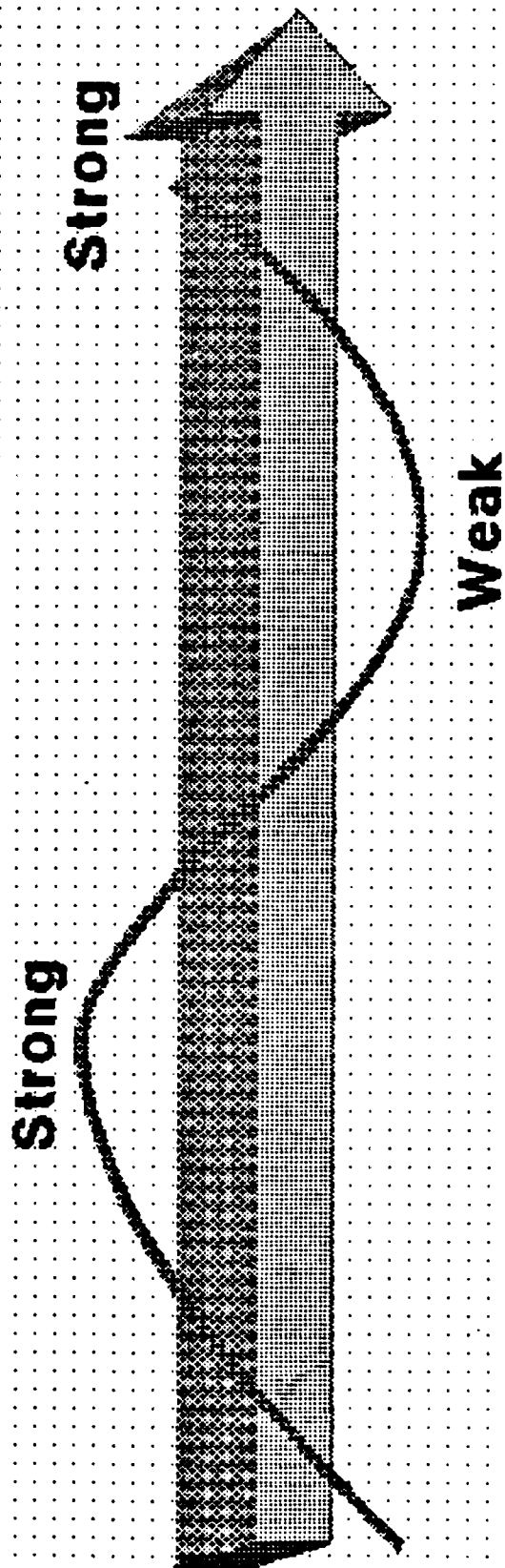
INDUSTRY SUPPLY

Numbers changed significantly

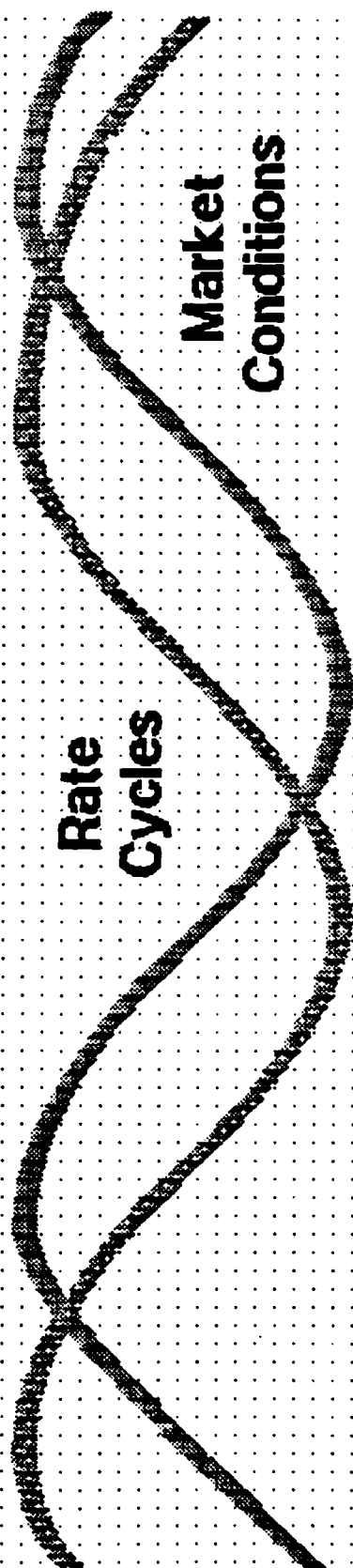
Attractive barge rates attracted capital, managers, and companies

- Shippers increased capacity
- Asset-hungry companies acquired / expanded fleets
- Outsiders invested in fleet capacity
- Many carriers integrated services
 - Fleeting
 - Repair
 - Construction

MARKET CONDITIONS



RATES VARY WITH MARKET CONDITIONS



INDUSTRY RESPONSES VARY WITH MARKET/RATE CYCLES

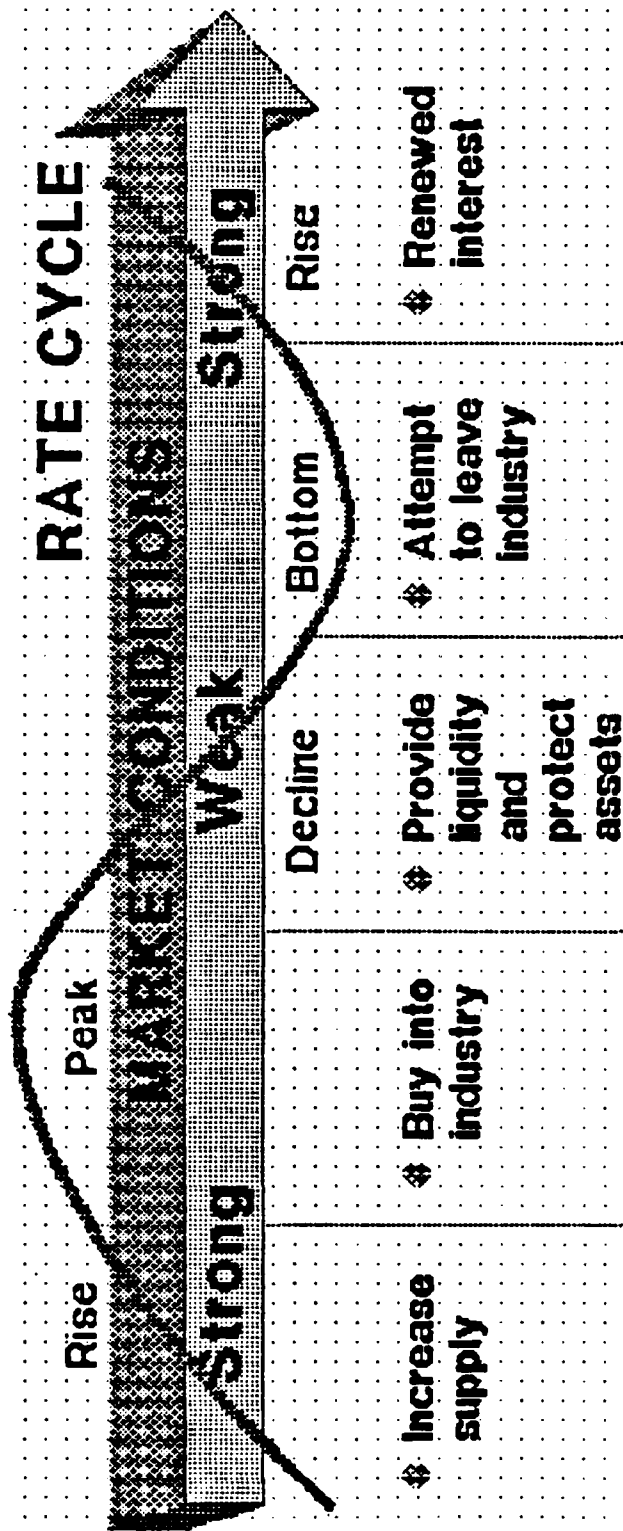
Financial sources

Carriers

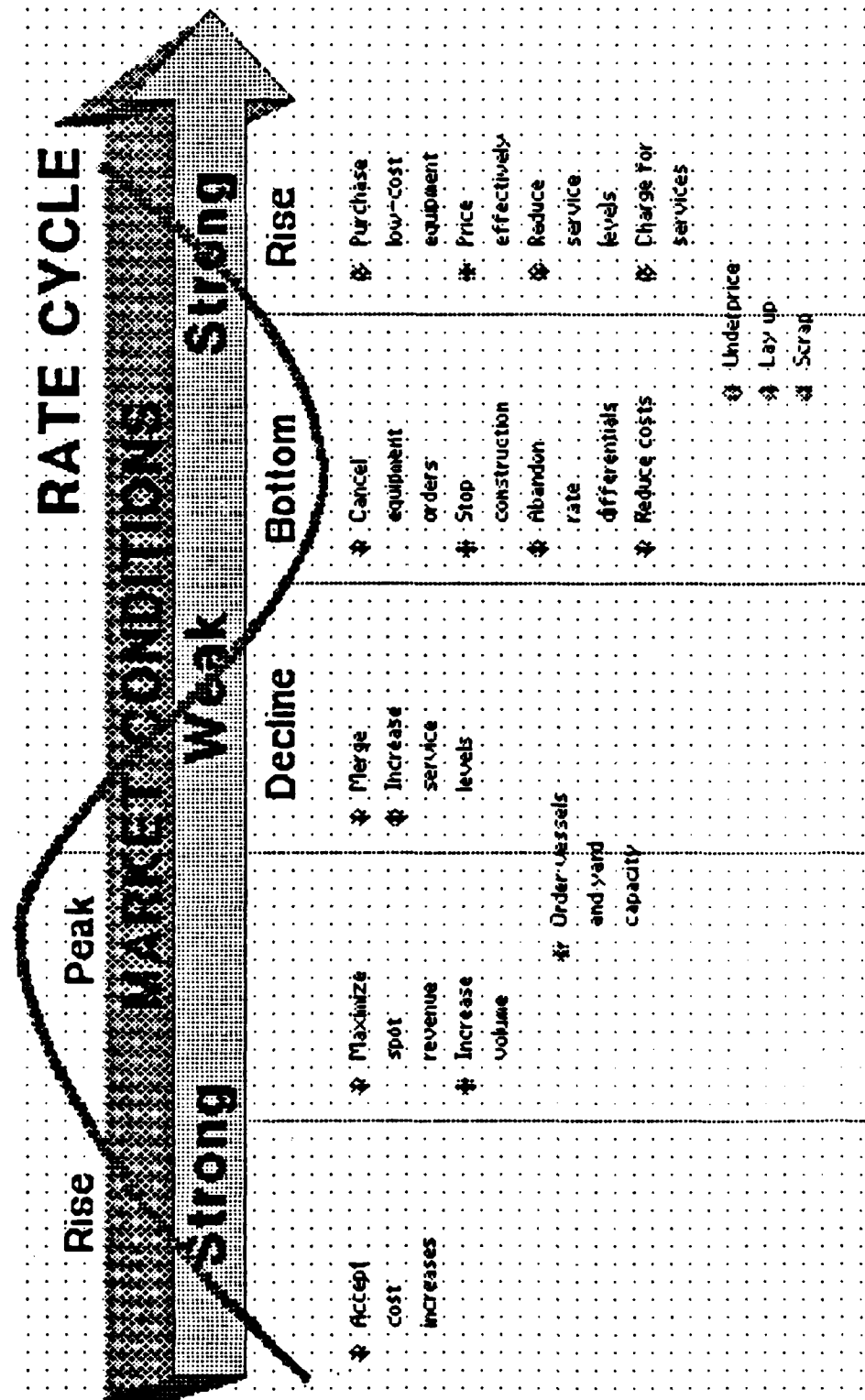
Shippers

Builders

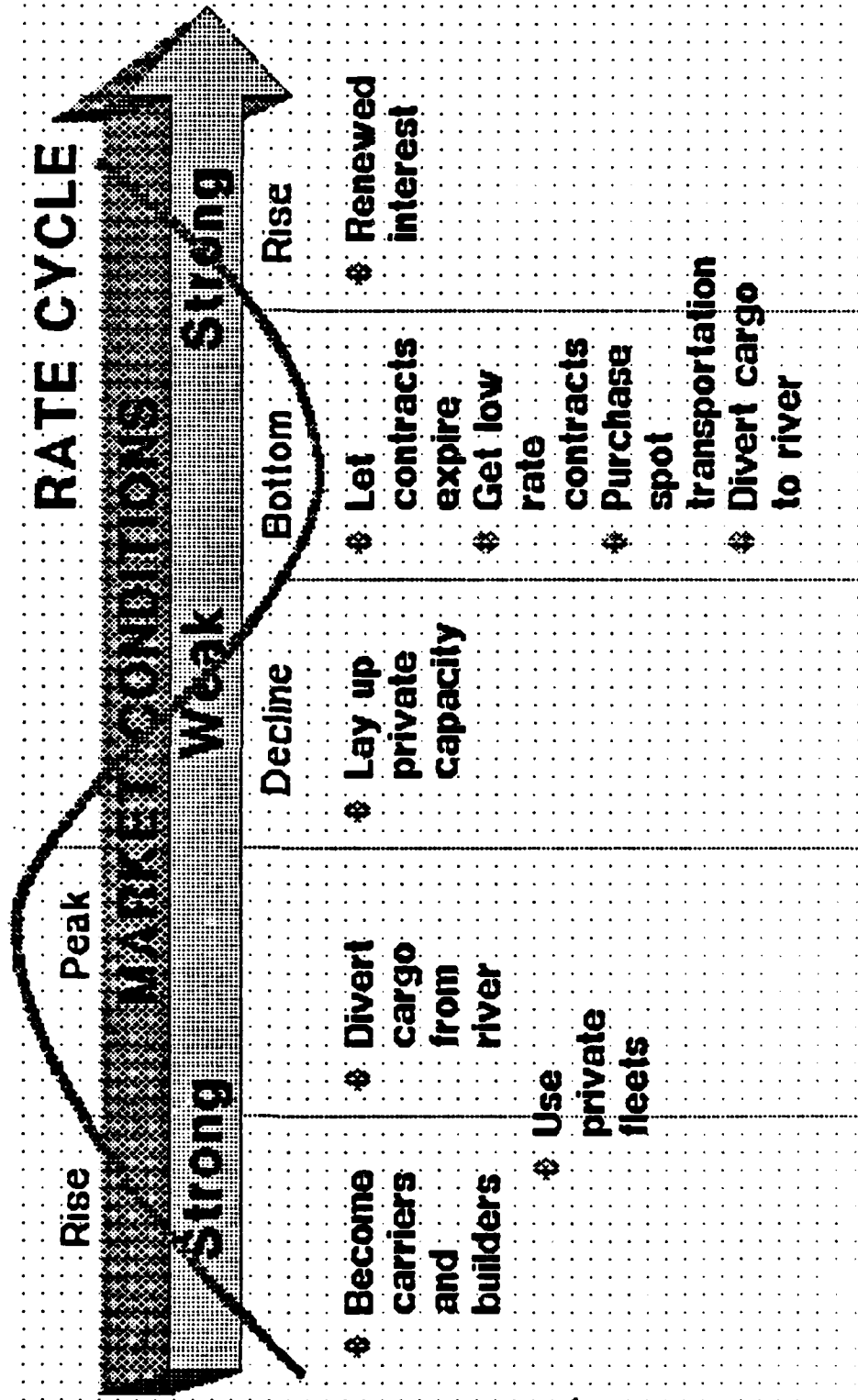
INLAND BARGE INDUSTRY STRATEGIC CYCLES: FINANCIAL SOURCES



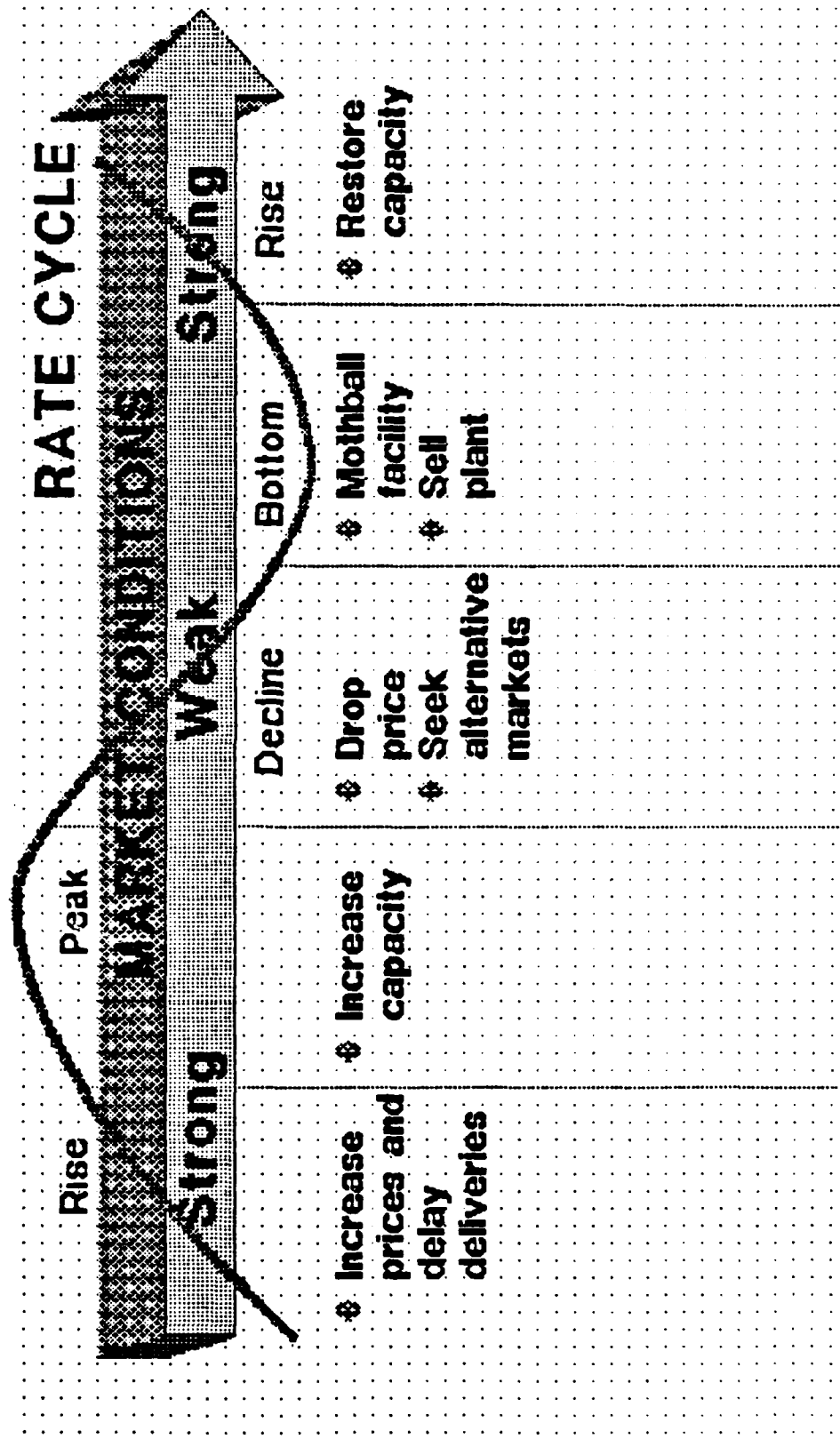
INLAND BARGE INDUSTRY STRATEGIC CYCLES: CARRIERS



INLAND BARGE INDUSTRY STRATEGIC CYCLES: SHIPPERS



INLAND BARGE INDUSTRY STRATEGIC CYCLES: BUILDERS



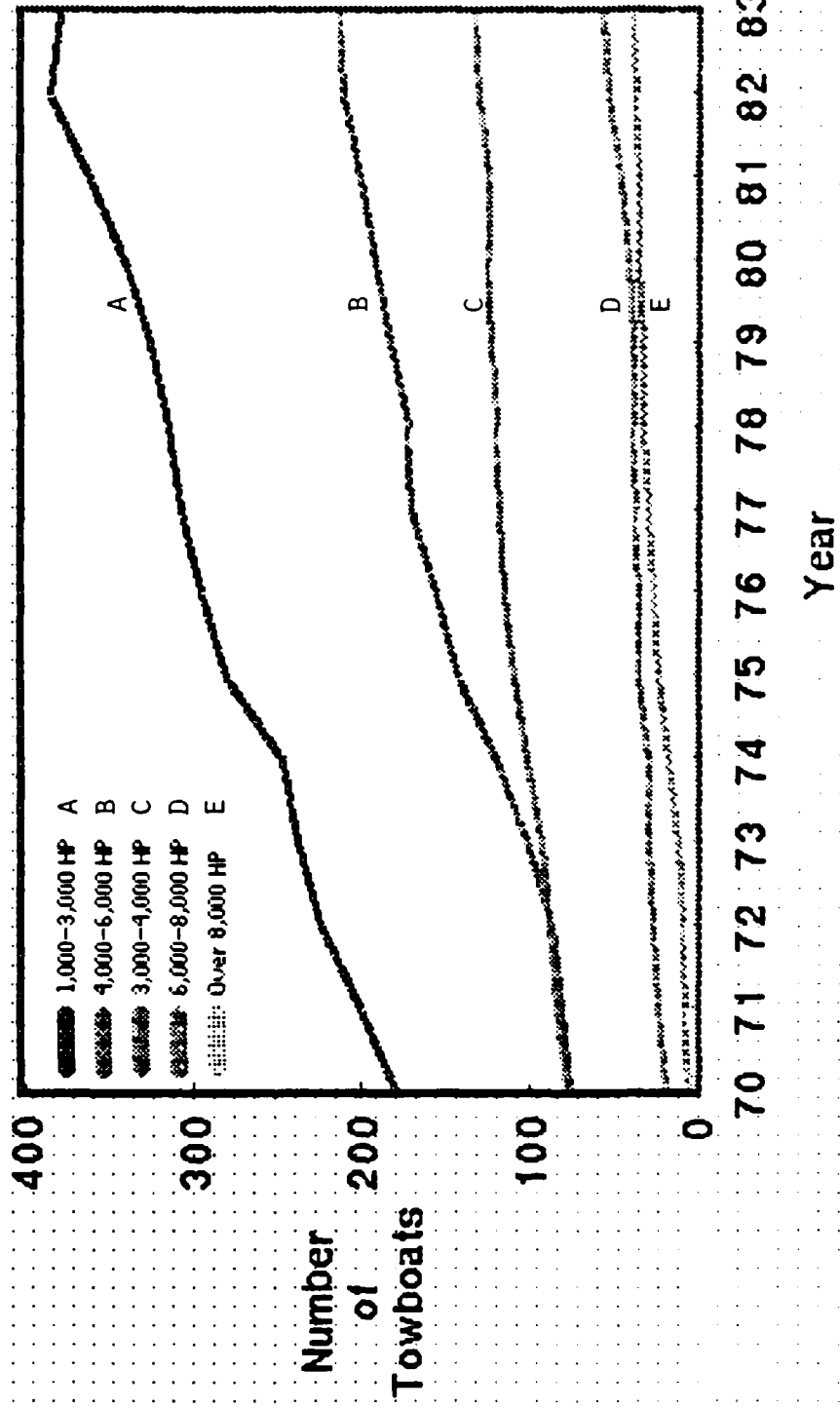
EXISTING FLEET

3,000 towboats	\$ 4.0 billion
4,300 tank barges	1.8
7,500 open hoppers	1.4
11,000 covered hoppers	2.8
2,000 deck barges	0.3
27,800 vessels	\$10.3 billion
	Replacement Value

AGE PROFILE AND IMPLICATIONS FOR INLAND FLEETS 1984

Equipment Type	Vessels		Percent	
	Over 20 Years	Fleet Inventory	Over 20 Years	Over 20 Years
Open hopper	1,726	7,773	22%	
Covered hopper	1,262	11,444	11	
Tank	455	1,733	26	
1,000 - 3,000 HP towboat	92	380	24	
3,000 - 4,000 HP towboat	55	131	42	
4,000 - 6,000 HP towboat	29	213	14	
6,000 - 8,000 HP towboat	8	56	14	
8,000 HP +	2	37	5	

WESTERN RIVERS LINEHAUL TOWBOAT FLEET INVENTORY



TOWBOAT FLEET DEVELOPMENT

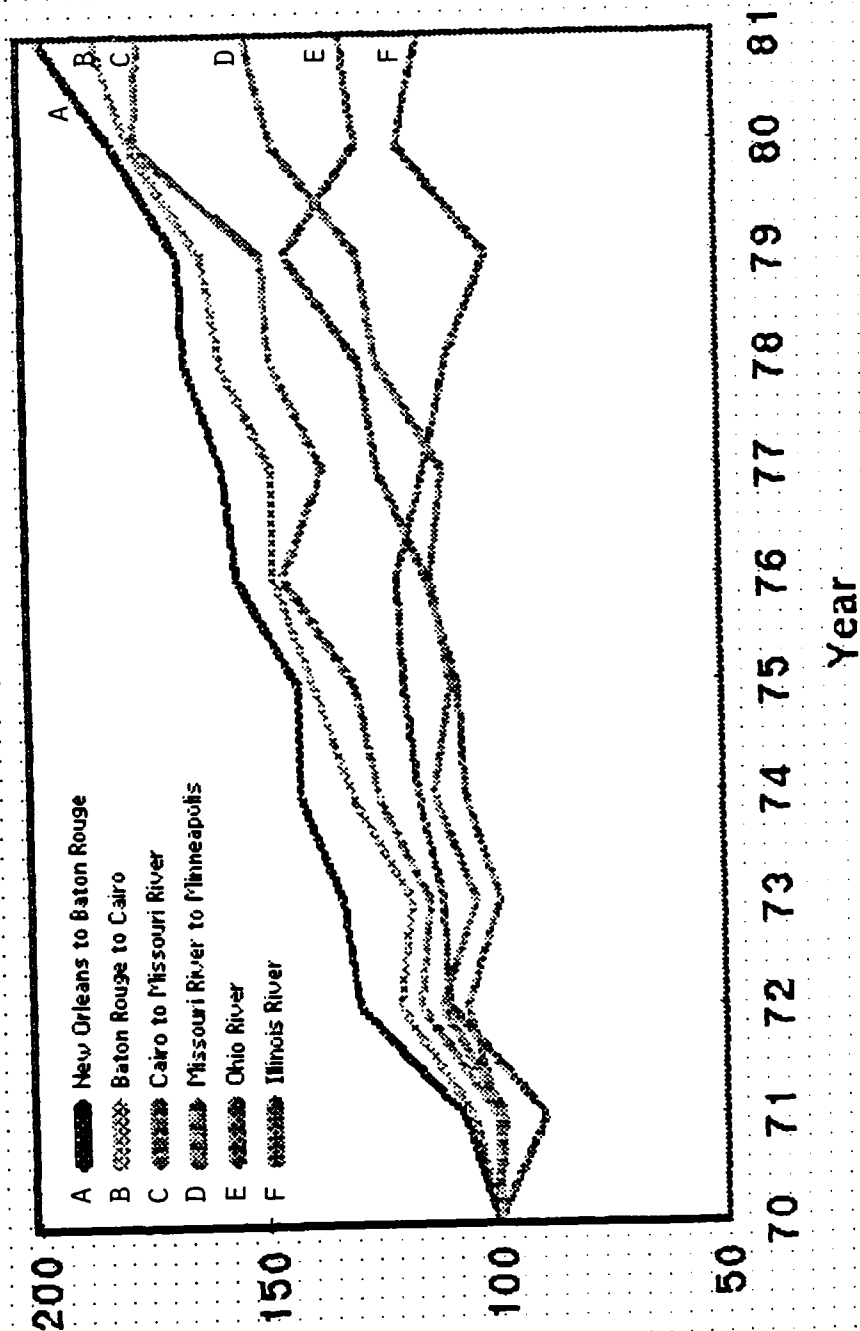
472 linehaul towboats added between 1970 and 1983

- **Most under 4,000 HP**
- **75 over 6,000 HP**

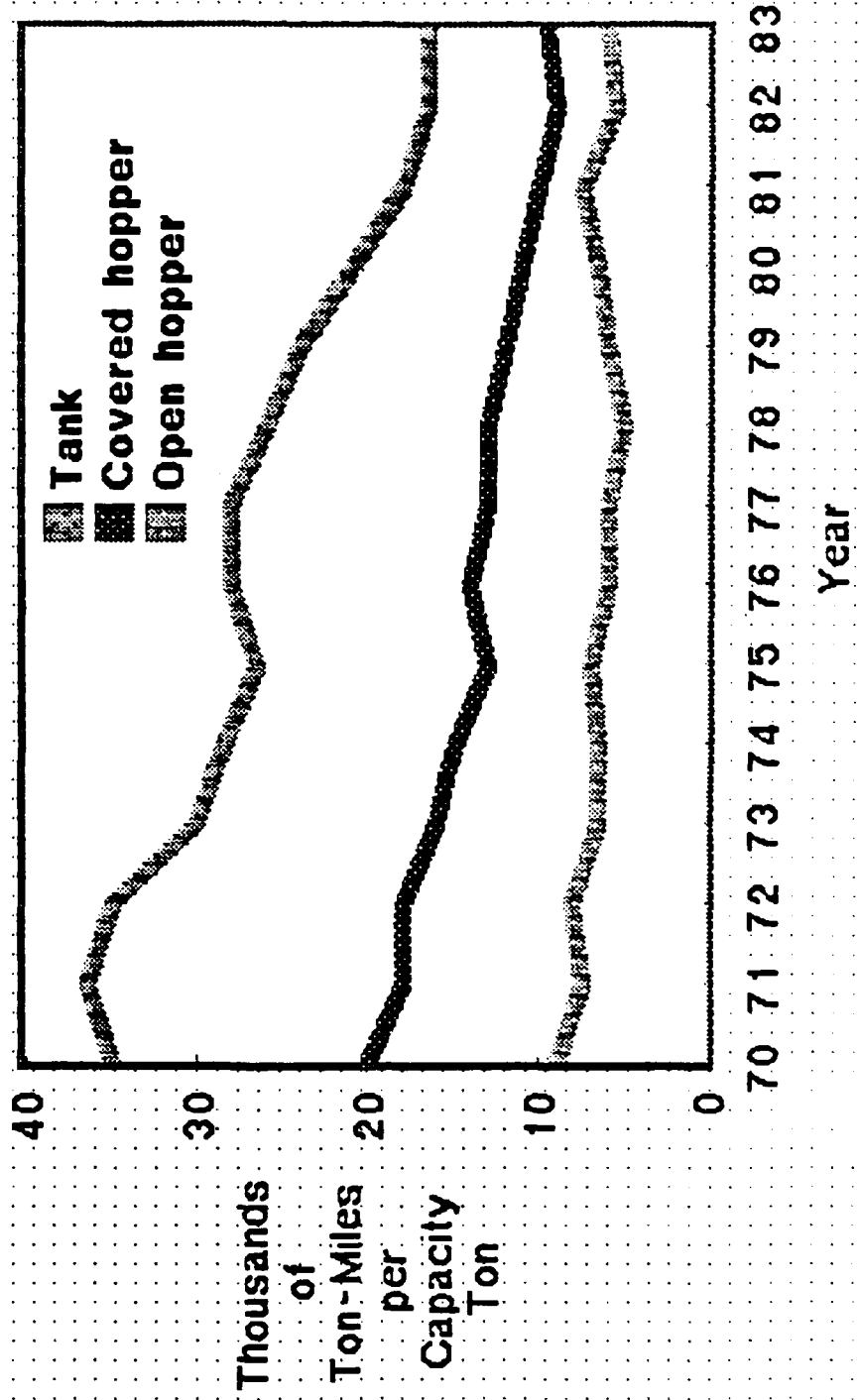
Towboat supply increased less rapidly than barge capacity

Little chance for scrapping or retirement

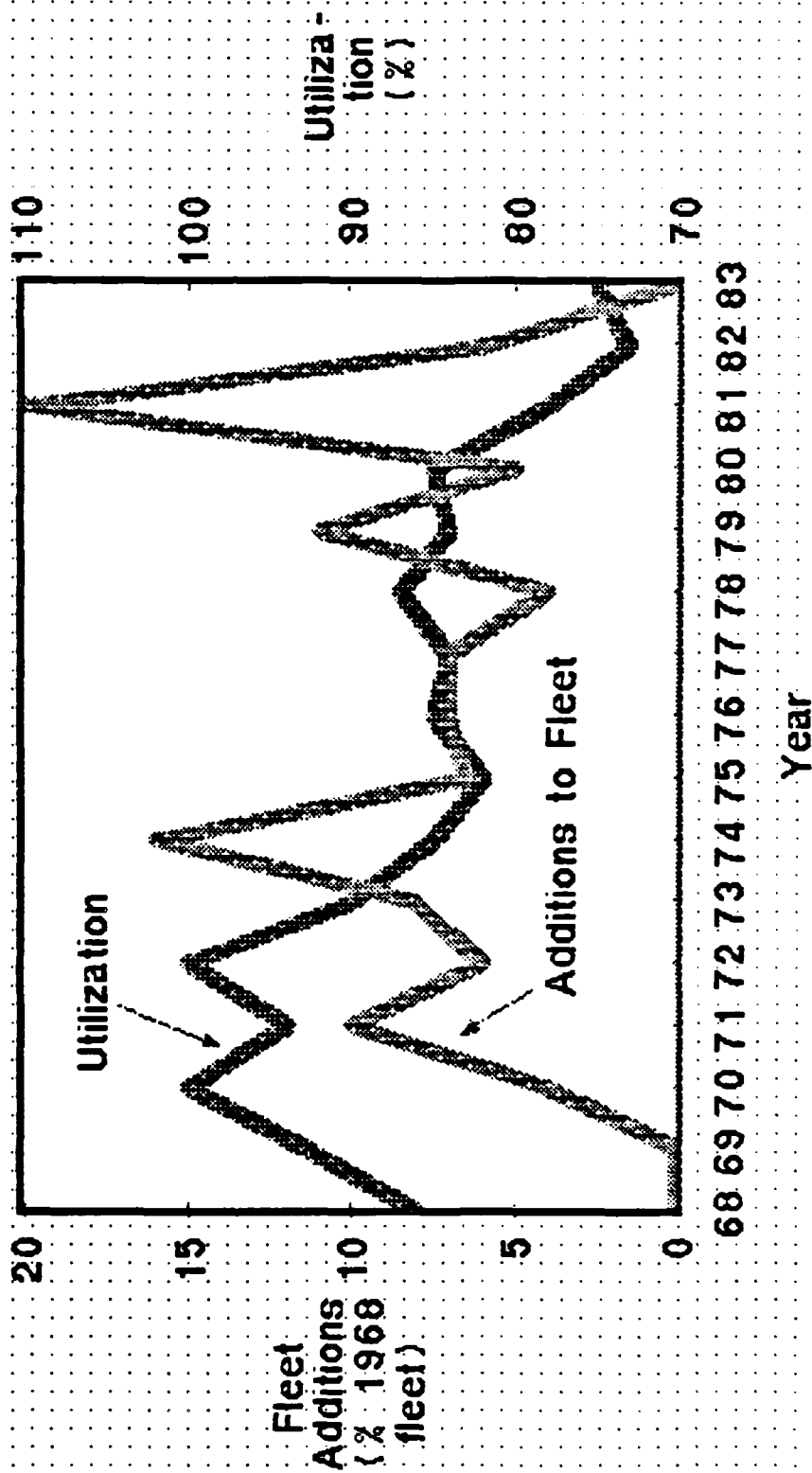
COMPARATIVE INCREASES IN RIVER TON-MILES



PRODUCTIVITY OF INLAND BARGES 1970-1983



UTILIZATION AND BARGE FLEET ADDITIONS 1968-1983



THE DEMAND-SUPPLY CYCLE

High 1969 - 1972 utilization resulted in 1971 - 1974 additions to fleet

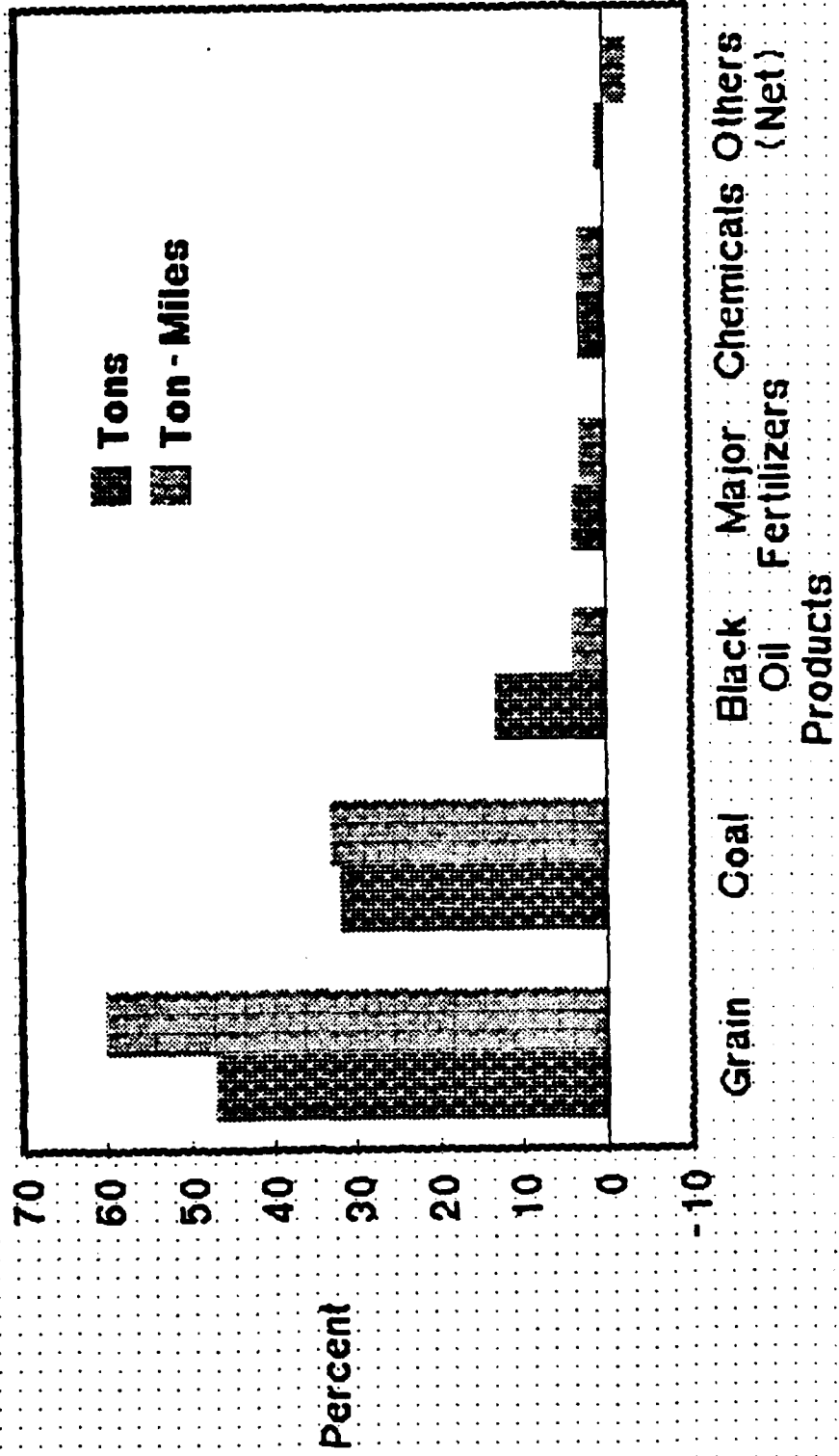
Slight 1976 - 1978 increase in utilization and short-term expectations for export coal and grain triggered 1979 - 1981 boom

Additions overwhelmed demand

Utilization dropped to 1973 low

1972 - 1982 orders fell to minimal levels

MISSISSIPPI RIVER TRAFFIC 1970-1981



FLEET DEMAND BY COMMODITY

Growth highly concentrated in grain and coal

Black oil products up

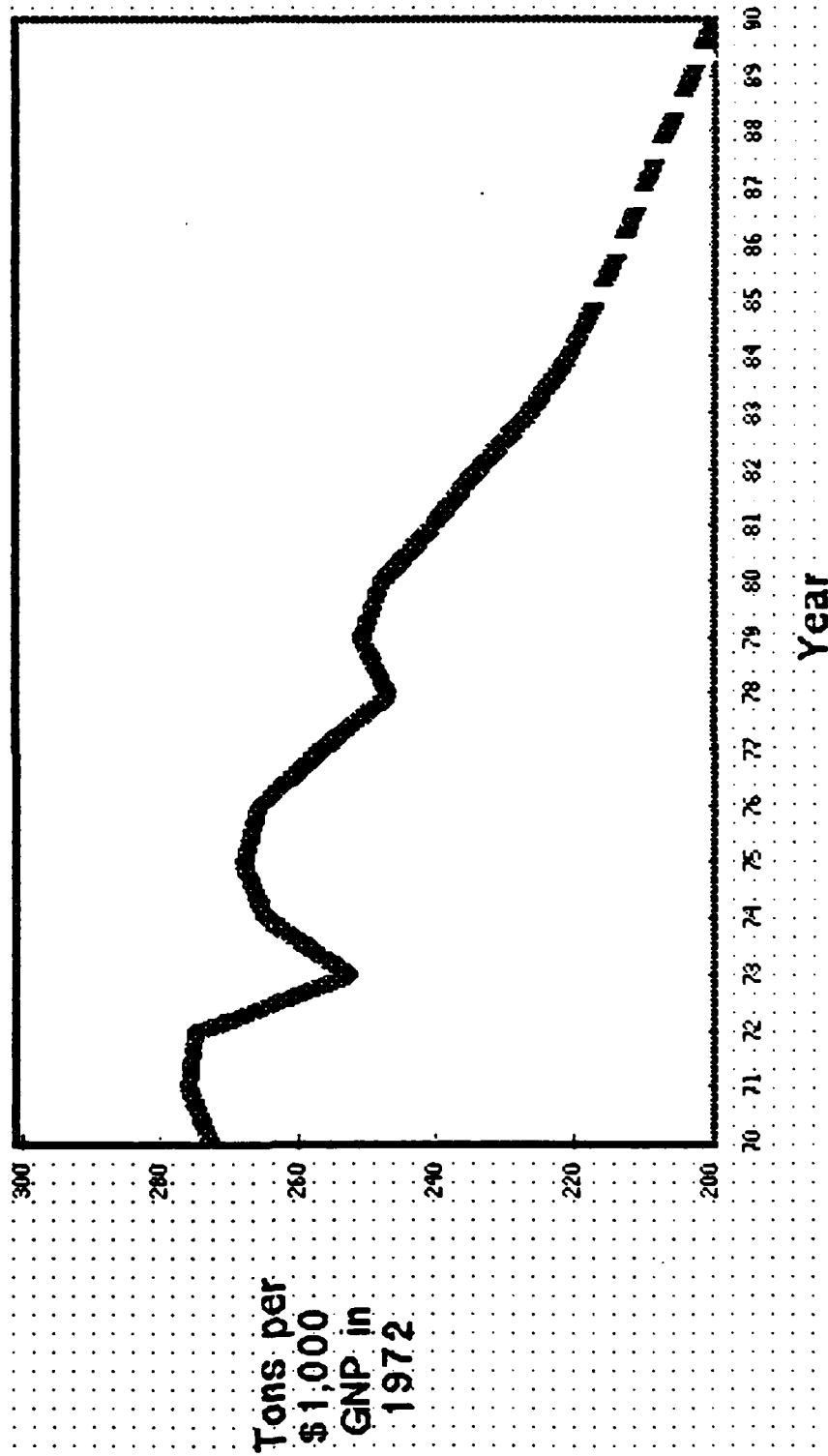
- **Changing crude supplies**
- **Changing refinery infrastructure**

Fertilizers increased to support agricultural demand

Chemicals rose to meet increased Gulf production

Growth was easy

MISSISSIPPI TONNAGE AND THE U.S. ECONOMY 1970-1983



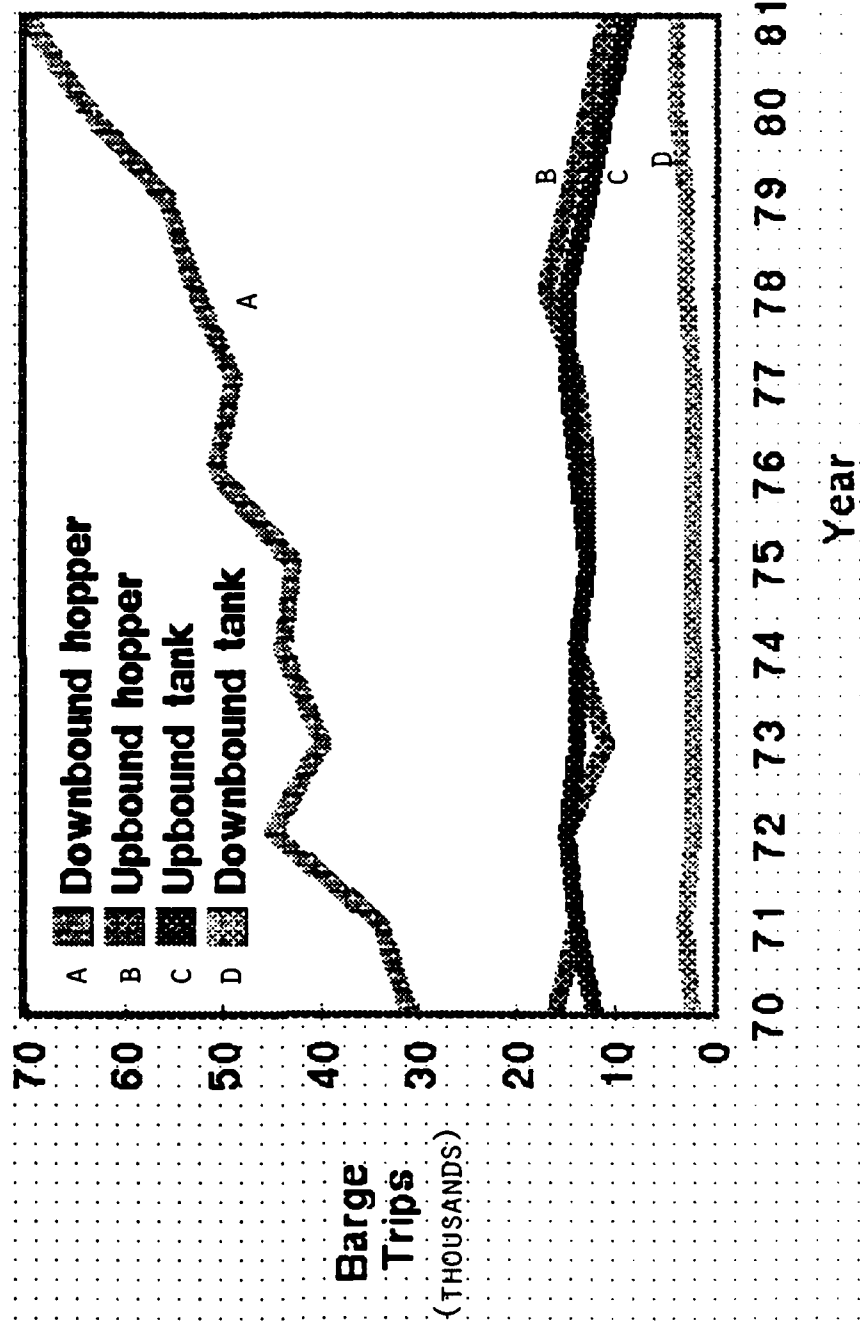
FLEET DEMAND

**Declined relative to U.S. economy even
with increased grain and coal traffic**

**Separated steadily from U.S. economic
activity measured by GNP**

**Stagnated in general cargo and neobulk
categories**

MISSISSIPPI RIVER TRAFFIC CAIRO TO BATON ROUGE 1981



FUTURE DEMAND

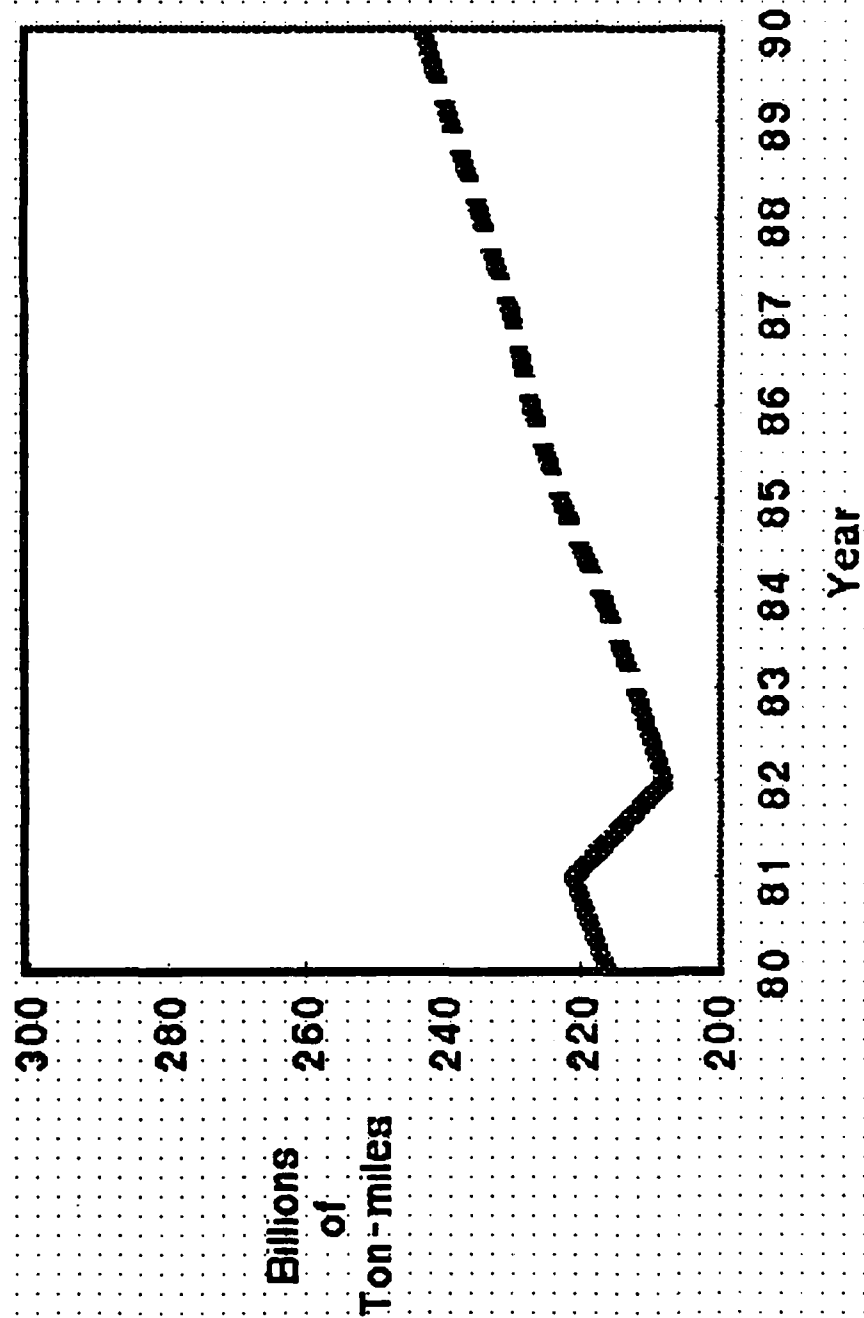
Gradual growth in major bulks

- **Export coal**
- **Export grain**

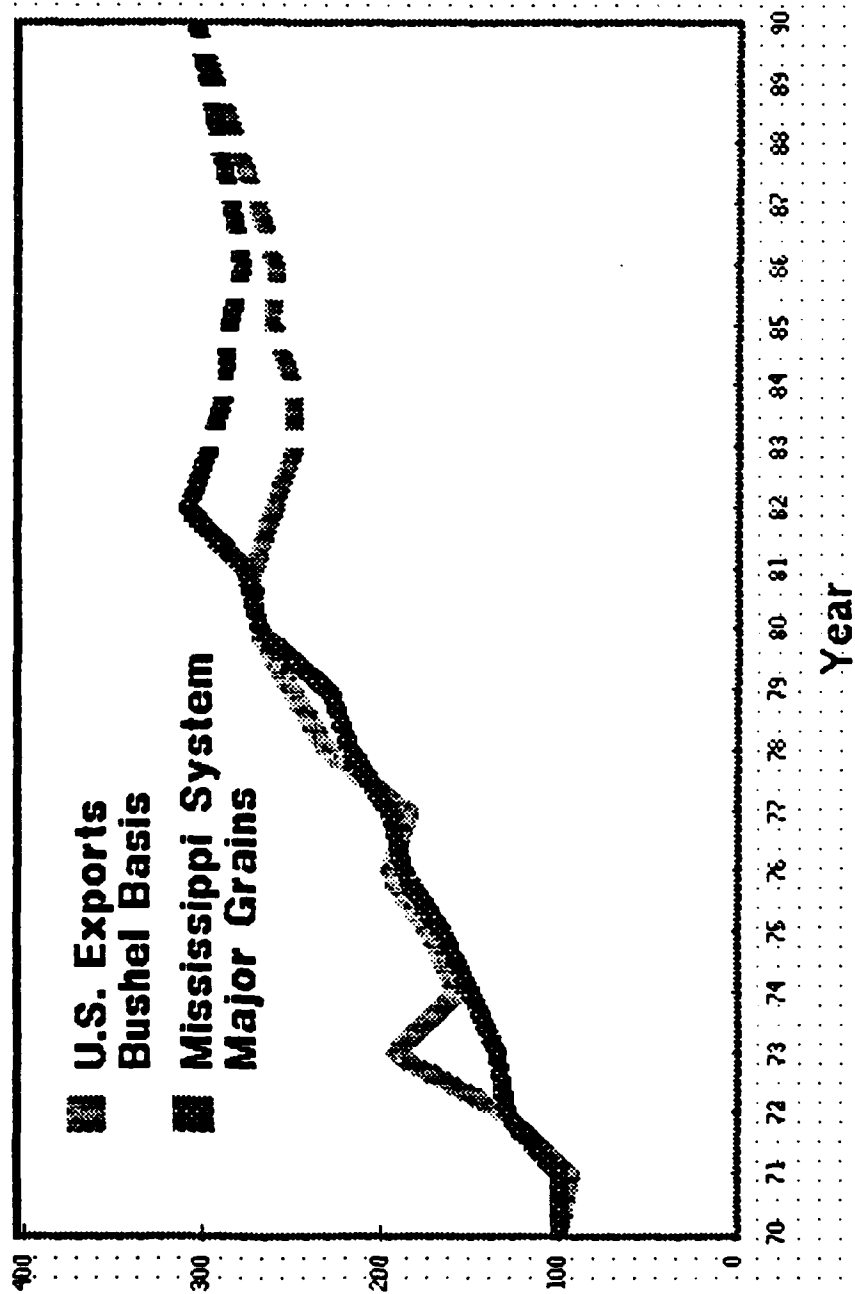
Slow decline in petroleum products

Chemicals stable

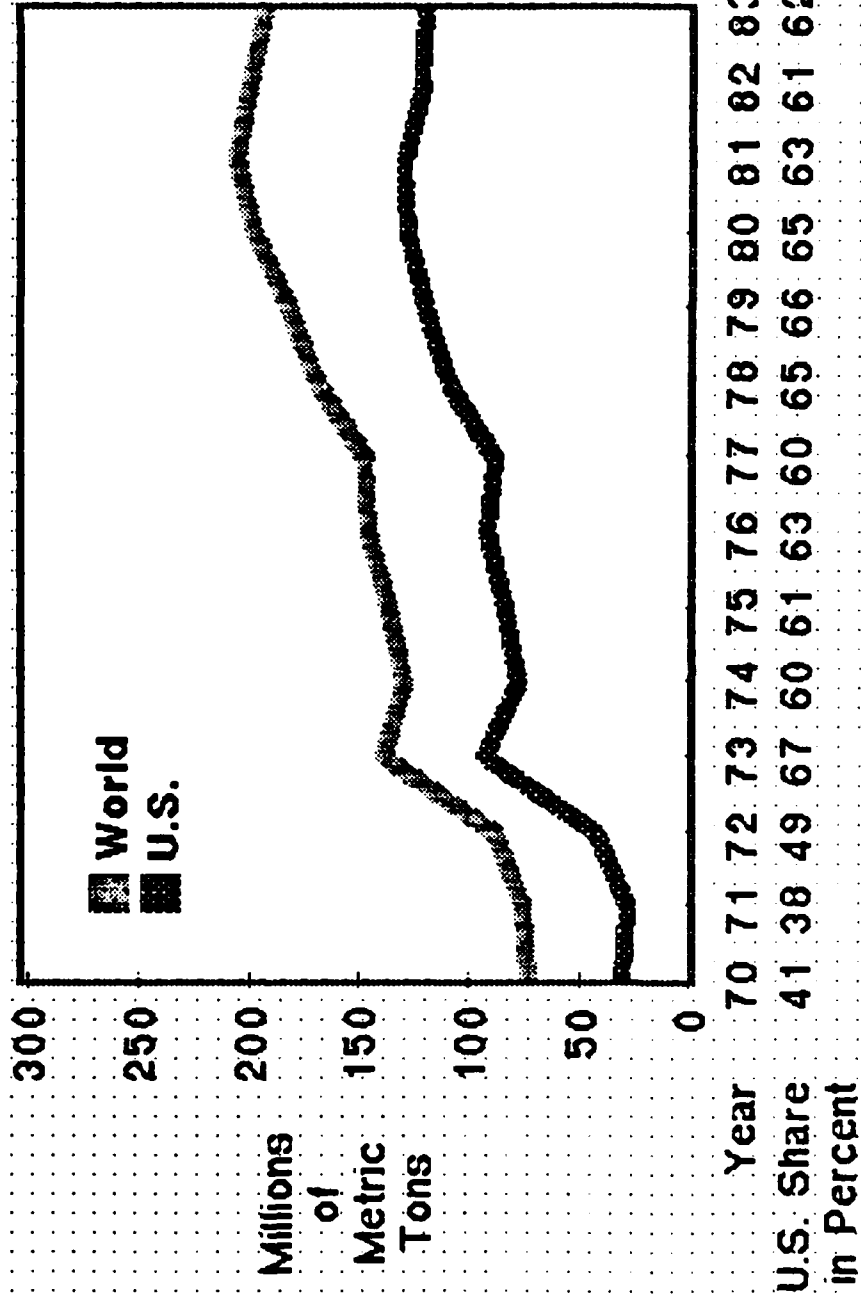
ALL WESTERN RIVERS TON-MILE DEMAND



INLAND GRAIN TRAFFIC: KEY INDICATORS



U.S. AND WORLD GRAIN TRADE



GRAIN: EXPORTS

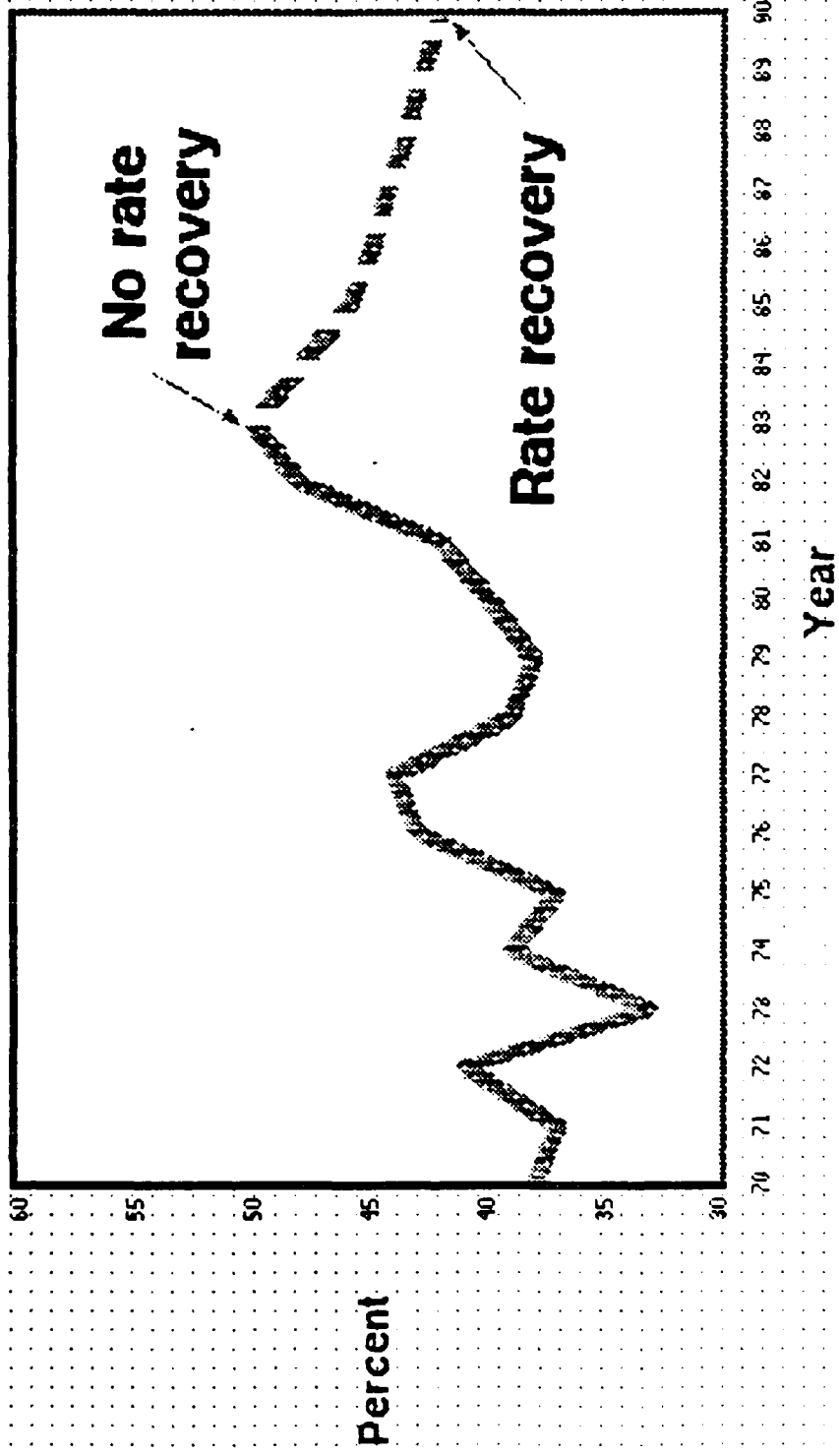
**Competition from Canada,
Argentina, Brazil, Australia**

Increased foreign production

Reduced U.S. production

High U.S. commodity prices

GRAIN: MISSISSIPPI SHARE OF U.S. EXPORTS



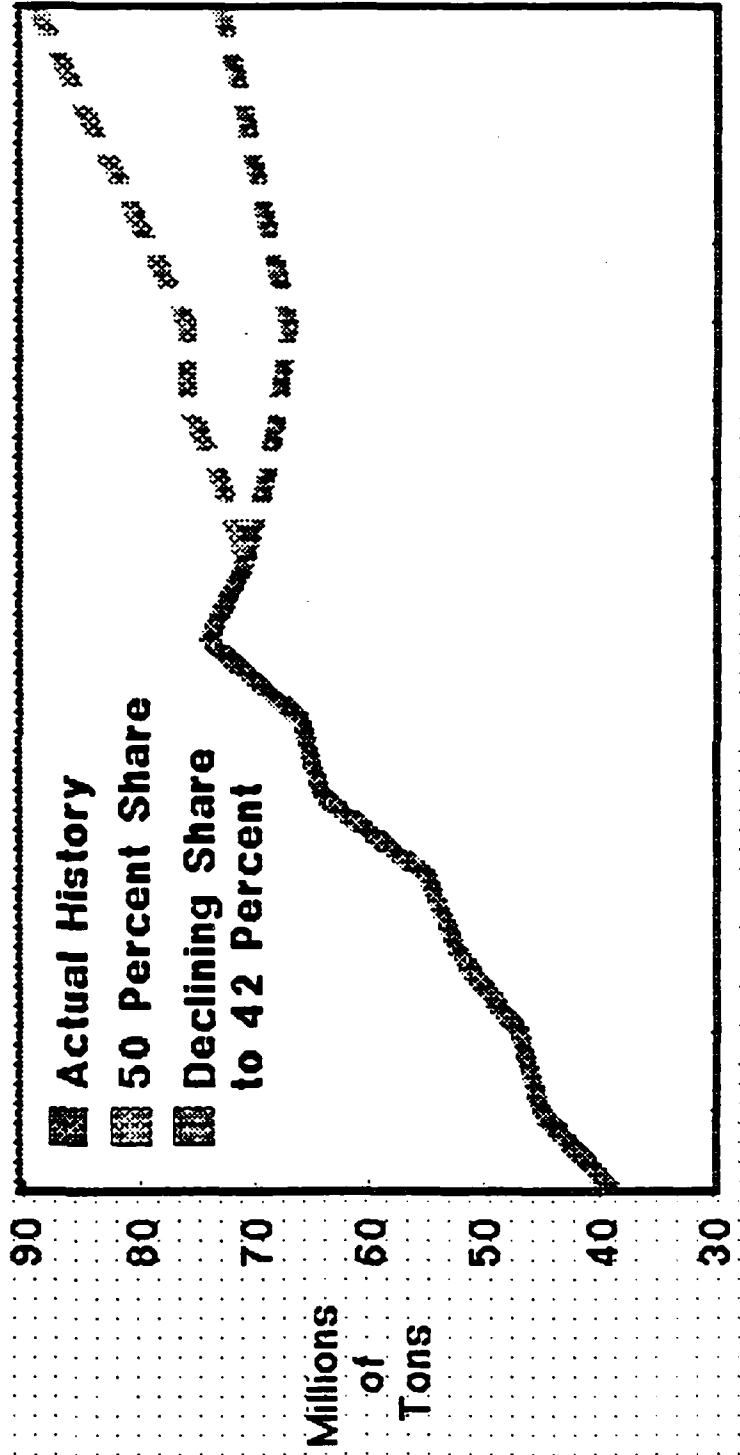
GRAIN: MISSISSIPPI SHARE

High barge rates could reduce inland traffic, but as

- **Demand declines**
- **Rates could move downward again**

MISSISSIPPI RIVER SYSTEM GRAIN TRAFFIC

FORECASTS UNDER DIFFERENT SHARES



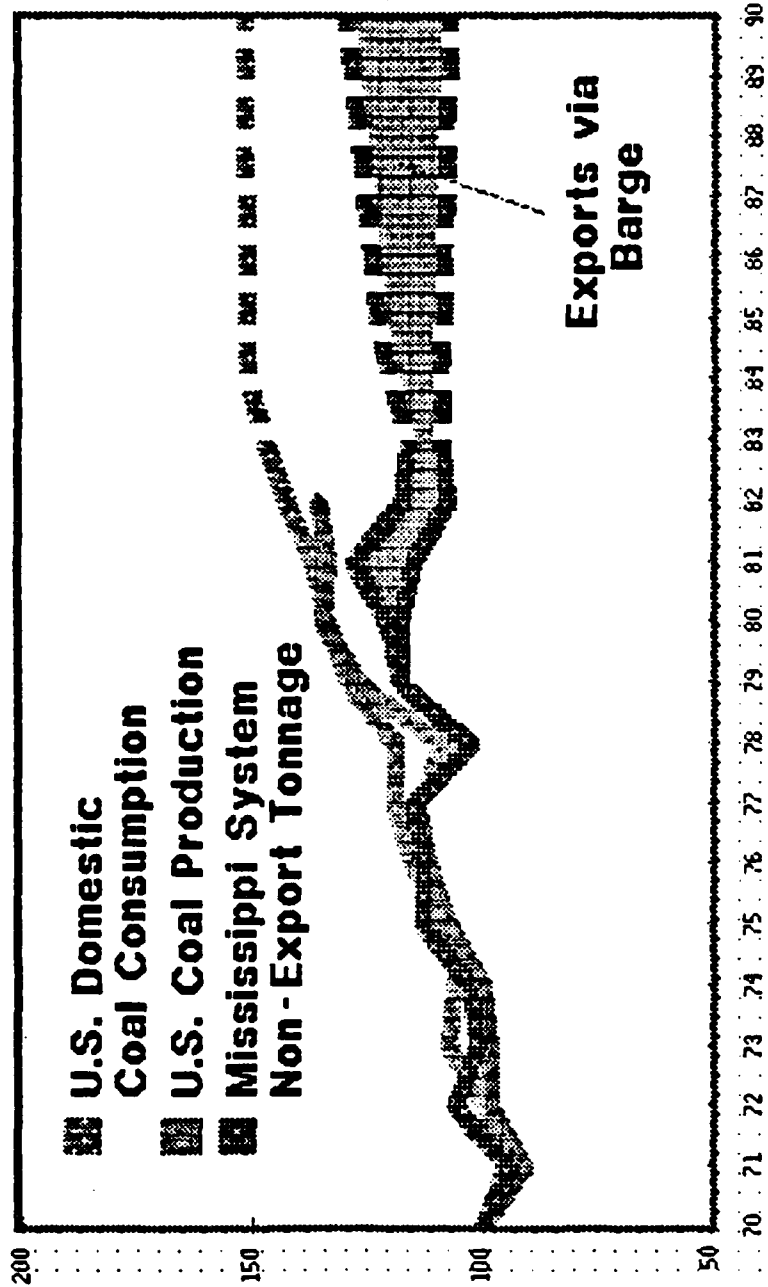
GRAIN: EXPORTS

Continued strong dollar

The lingering effects of the Russian trade embargo

- **Russian preference to barter rather than purchase grain**
- **Increased financial pressures to export on Argentina and Brazil**

INLAND COAL KEY INDICATORS



COAL

Export growth constraints

- **High F.O.B. prices**
- **Continued strong dollar**
- **More coastal exports**
- **Noncompetitive U.S. prices**
- **Railroad rates**
- **Draft limitations**

COAL

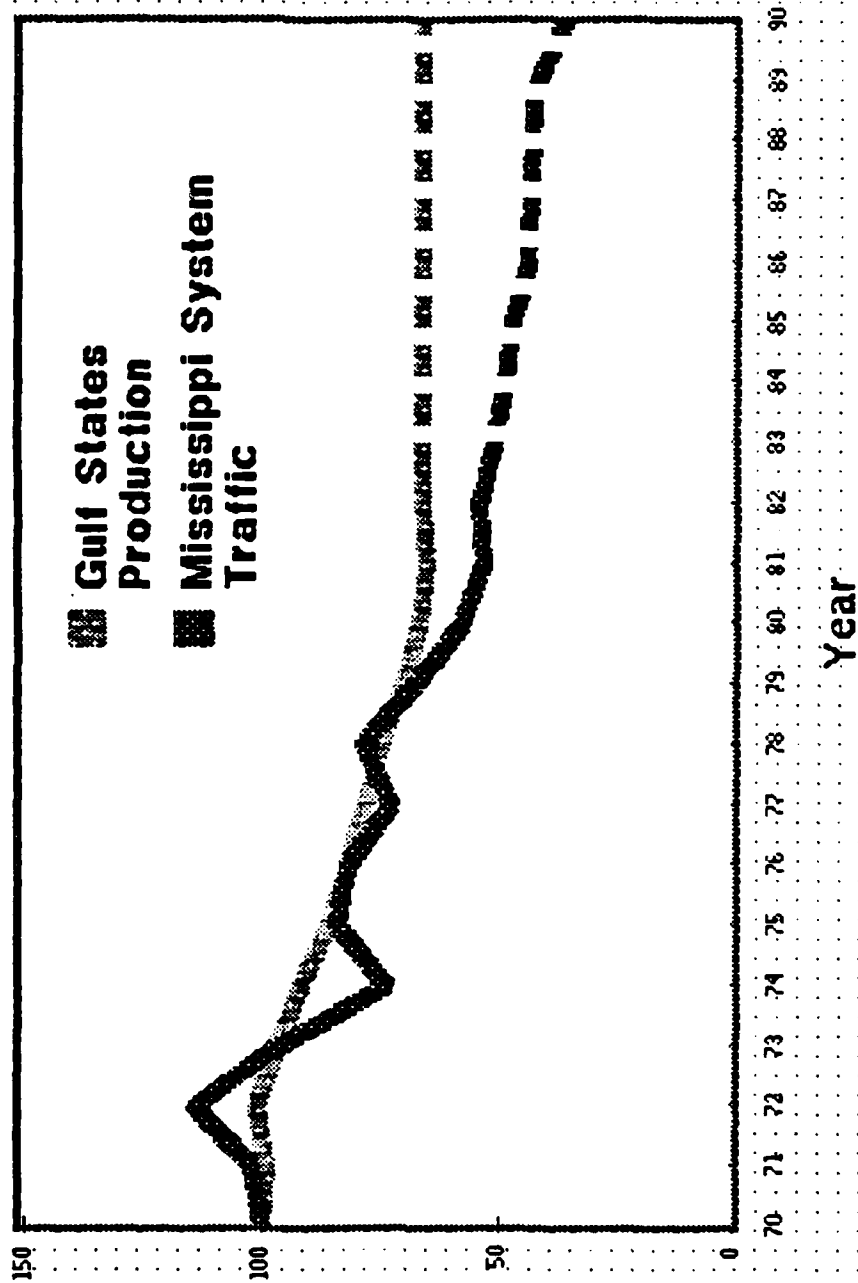
Export shipments will recover

- **Steam coal exports will emerge over met coal**
- **Gulf is surge export point**
- **Mobile competing for top Gulf position**
- **Will remain sensitive to oil prices, U.S. costs, and foreign competition**

COAL

- Domestic shipments suppressed
- Steel production will see reductions in coking requirements
- Utility requirements will increase slowly
- Industrial, residential, and commercial demand will stabilize

INLAND CRUDE OIL TRAFFIC: KEY INDICATORS

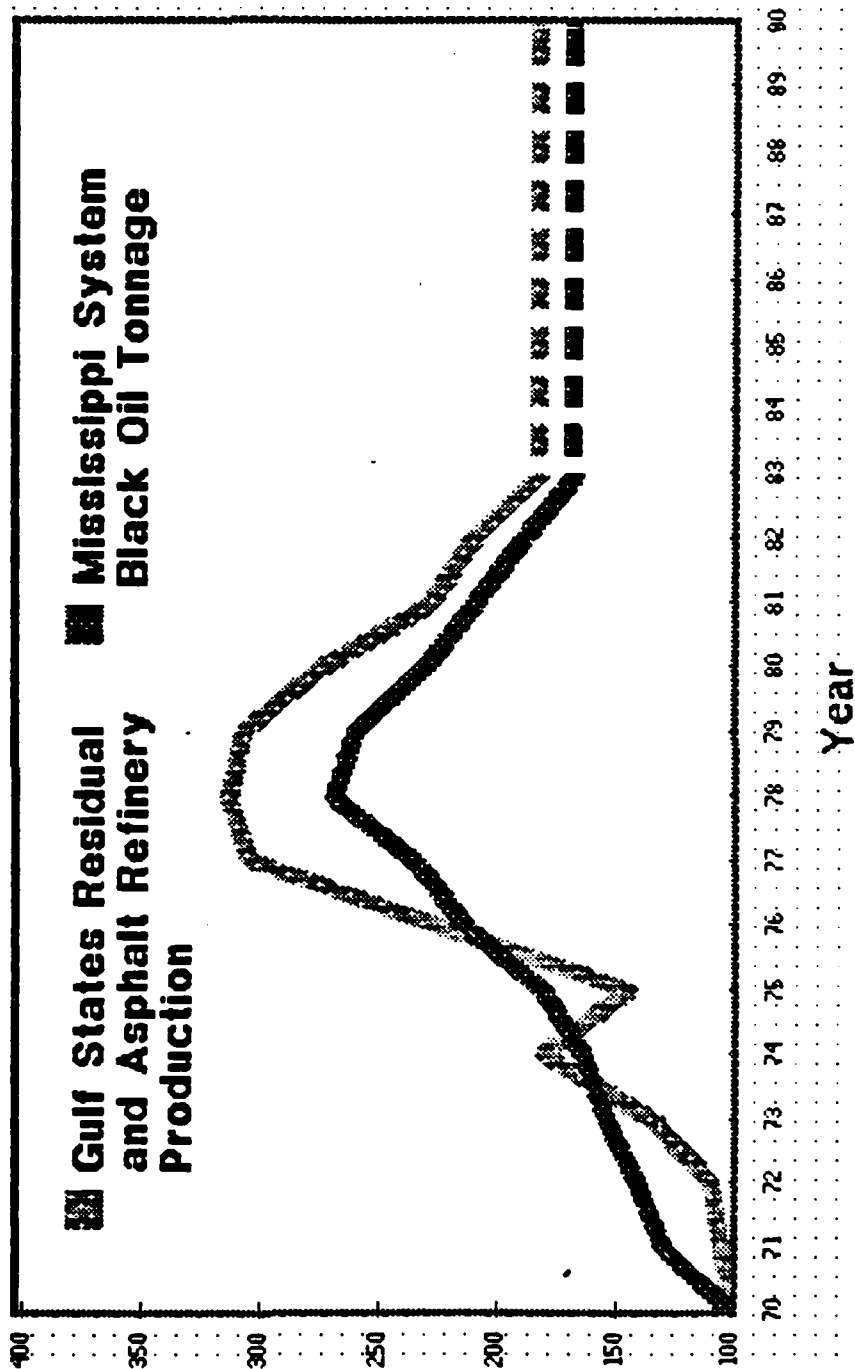


CRUDE OIL

Closely followed declining Gulf production

- **Western Louisiana/East Texas production off sharply**
- **Major drop in New Orleans-Baton Rouge traffic as sweet crude was refined by majors**
- **Increased import crude deliveries by ship to riverside refineries**
- **Pipeline network highly developed**

INLAND BLACK OIL PRODUCTS TRAFFIC: KEY INDICATORS



BLACK OIL PRODUCTS

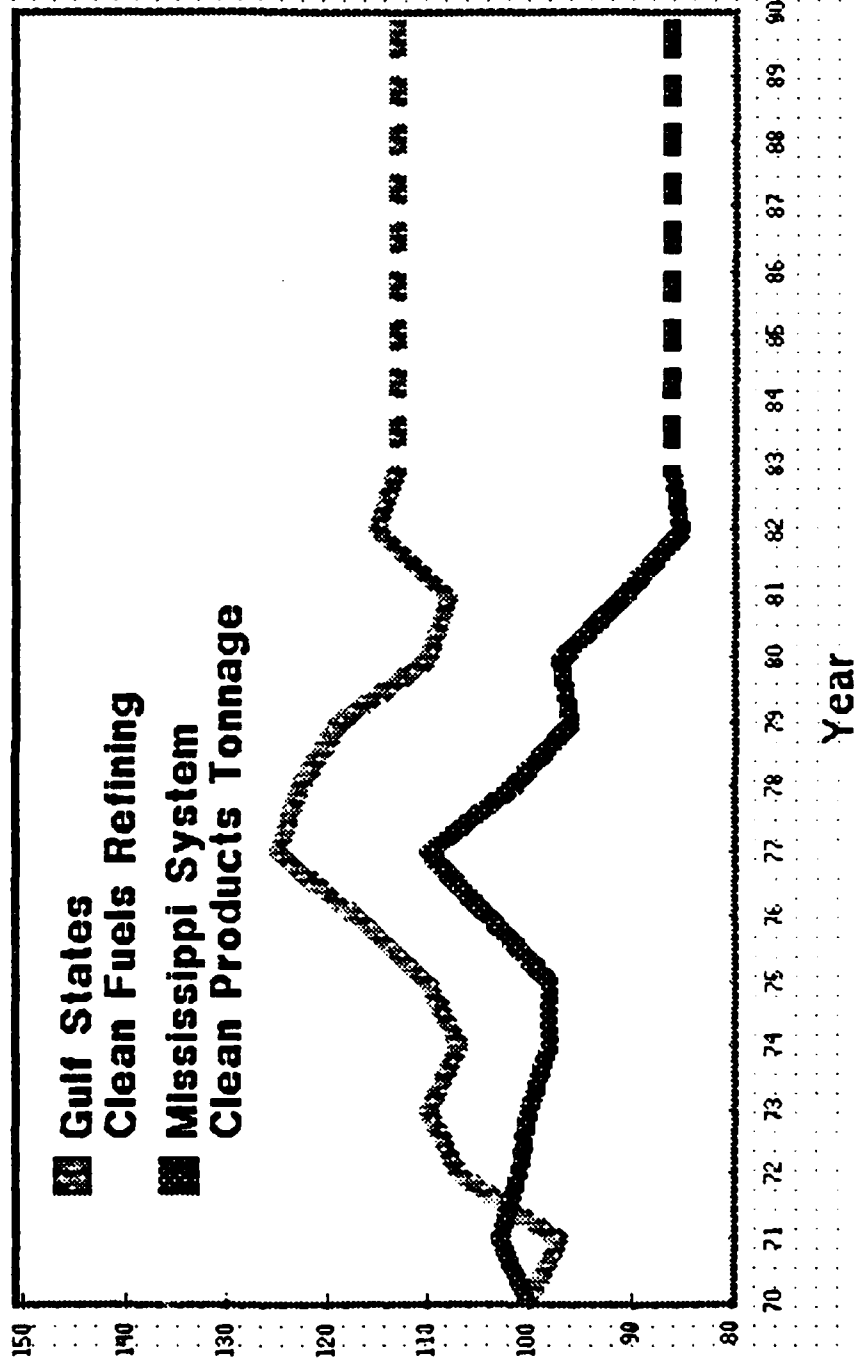
Production and traffic down since 1978

**Residual oil/asphalt down as fraction
of Gulf refiners' production slates**

- 12 percent in 1978
- 8 percent in 1982

**Higher value distillates critical
in deregulated market**

INLAND CLEAN PRODUCTS TRAFFIC: KEY INDICATORS



CLEAN PRODUCTS

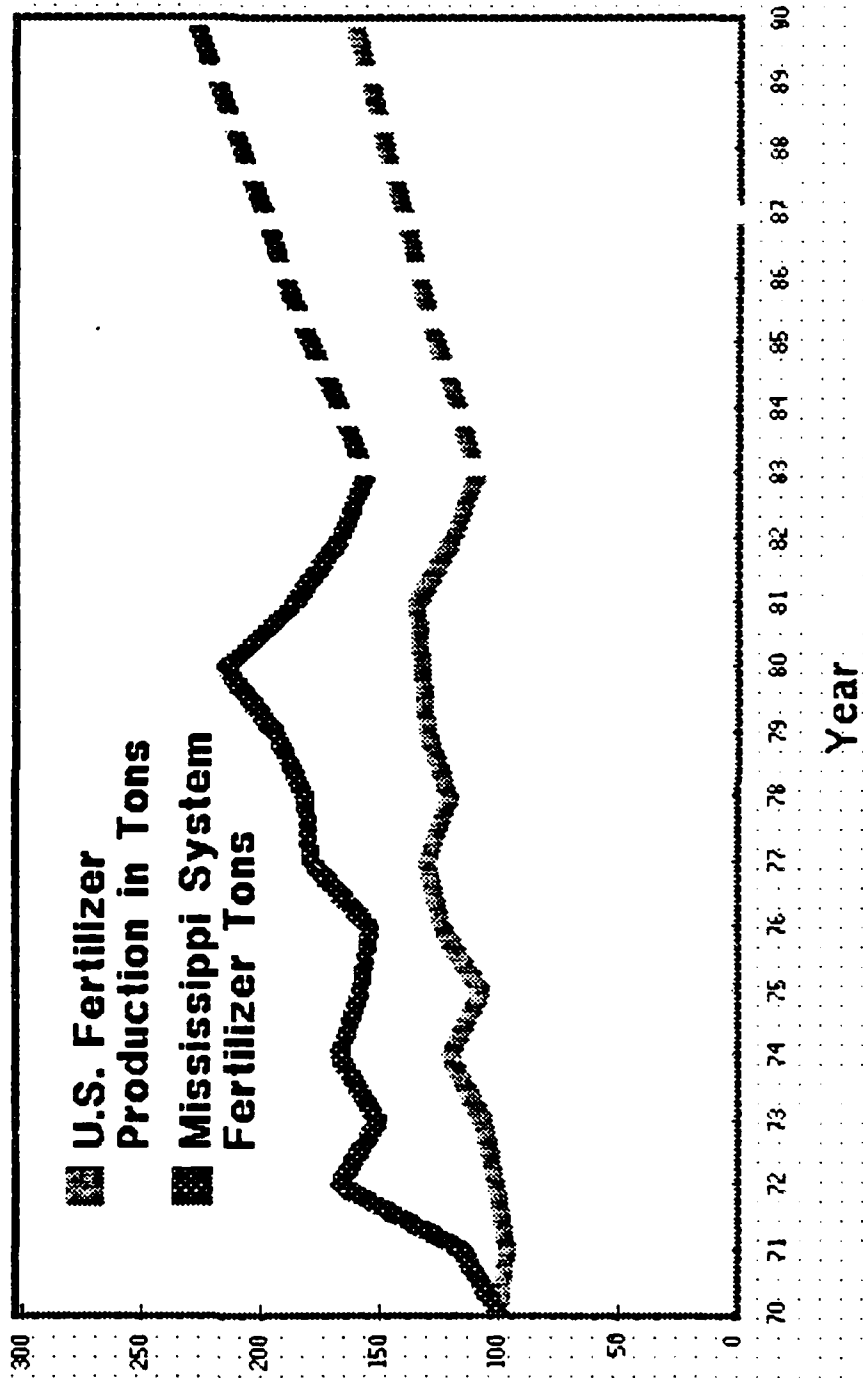
Net decline

Pipeline transfers major cause

Key long-haul traffic lost

- **Distillate**
- **Jet fuel**
- **Kerosene**
- **Gasoline**

INLAND FERTILIZER TRAFFIC: KEY INDICATORS



FERTILIZER

After rapid 1970-1972 growth,
traffic followed production

Traffic declined in 1981 although
production increased

Stiff competition from railroads
a major factor

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A GUIDE TO STRATEGIC PLANNING FOR THE INLAND BARGE AND
TOWING INDUSTRY AP. (U) DRAYO MECHLING CORP NEW ORLEANS
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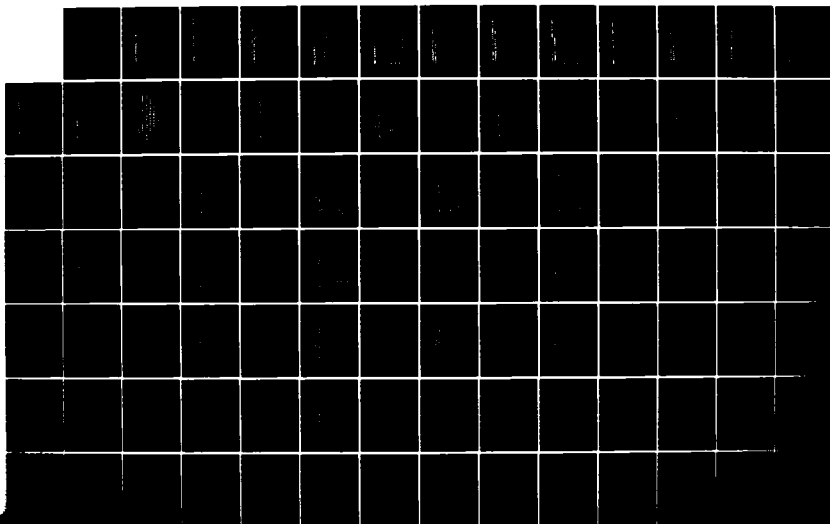
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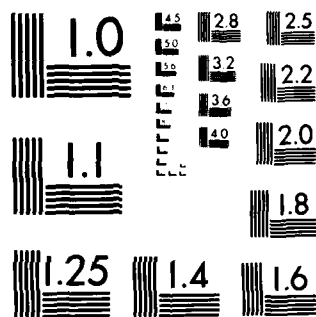
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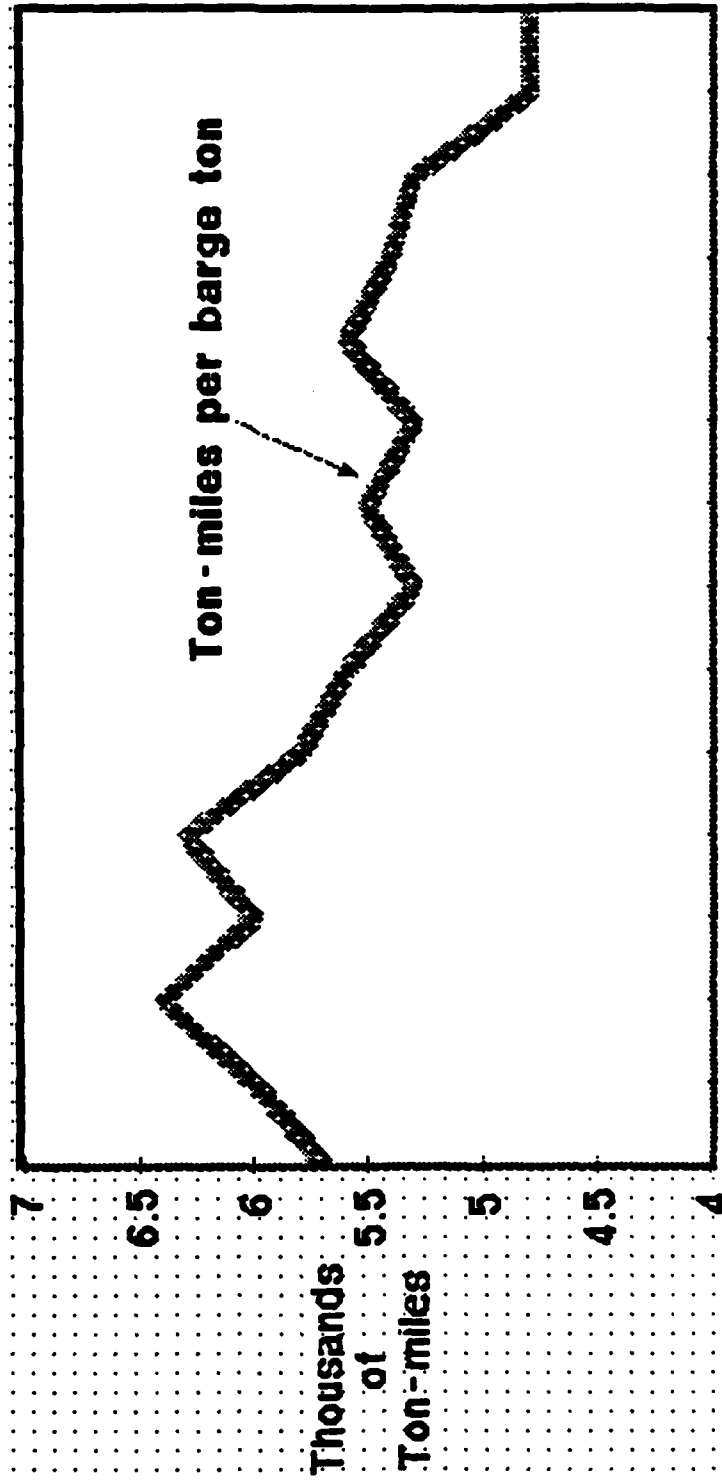
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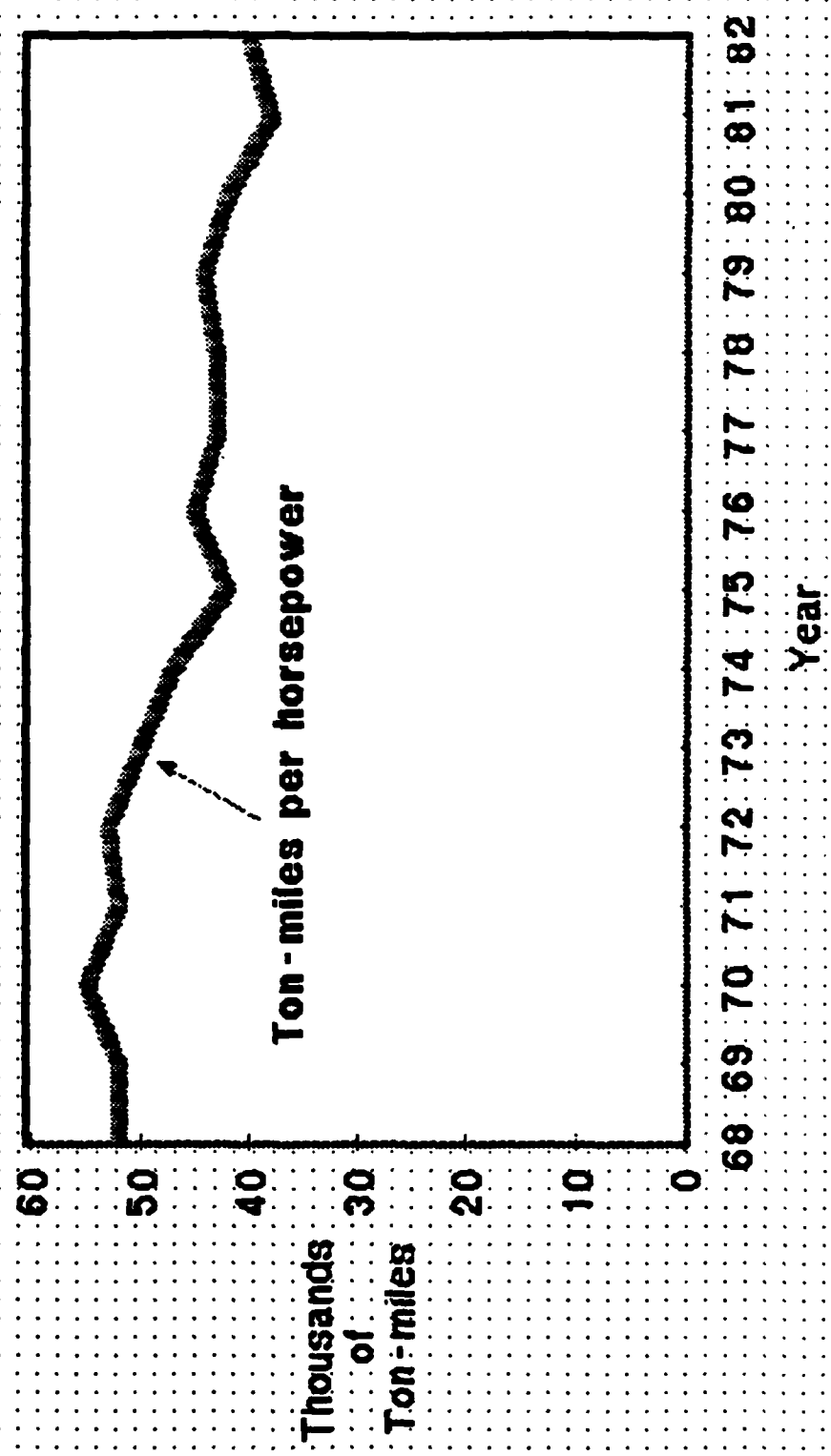


MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS 1963-A

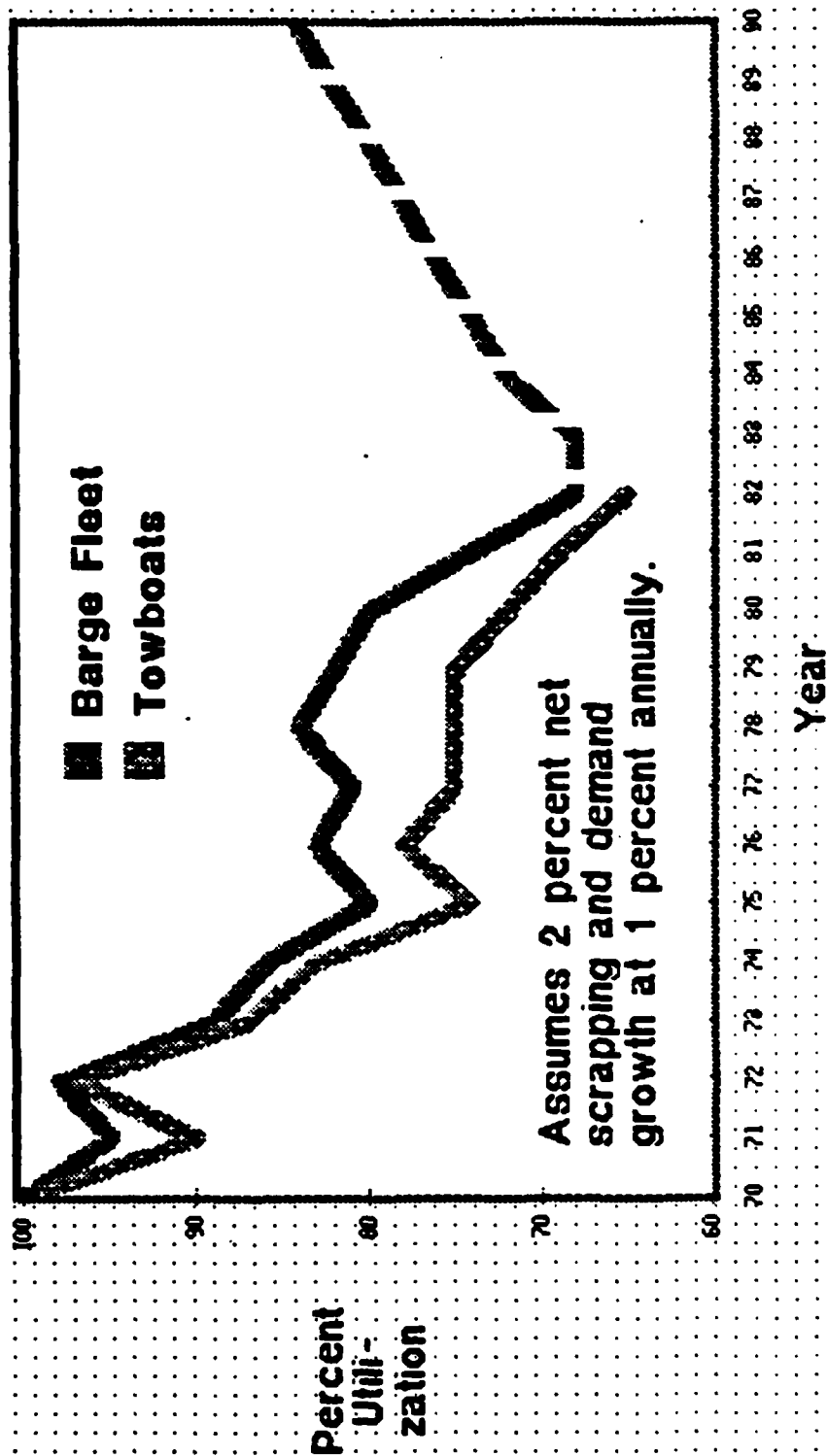
FLEET PRODUCTIVITY



TOWBOAT FLEET PRODUCTIVITY



UTILIZATION OF TOWBOATS AND BARGES ON MISSISSIPPI AND GULF INTRACOASTAL SYSTEMS



RECOVERY

Spot grain rates must increase to cover out-of-pocket costs

Utilizations must increase to above 1975-1980 levels to compensate for loss of demurrage revenue and increased efficiencies of terminals

RECOVERY

Capacity must be reduced

- Increased scrapping
- No new construction
- Revalued equipment to discourage new entrants

OVERSUPPLY FACTORS: AGING STOCK

Some open hopper barges 80 years old

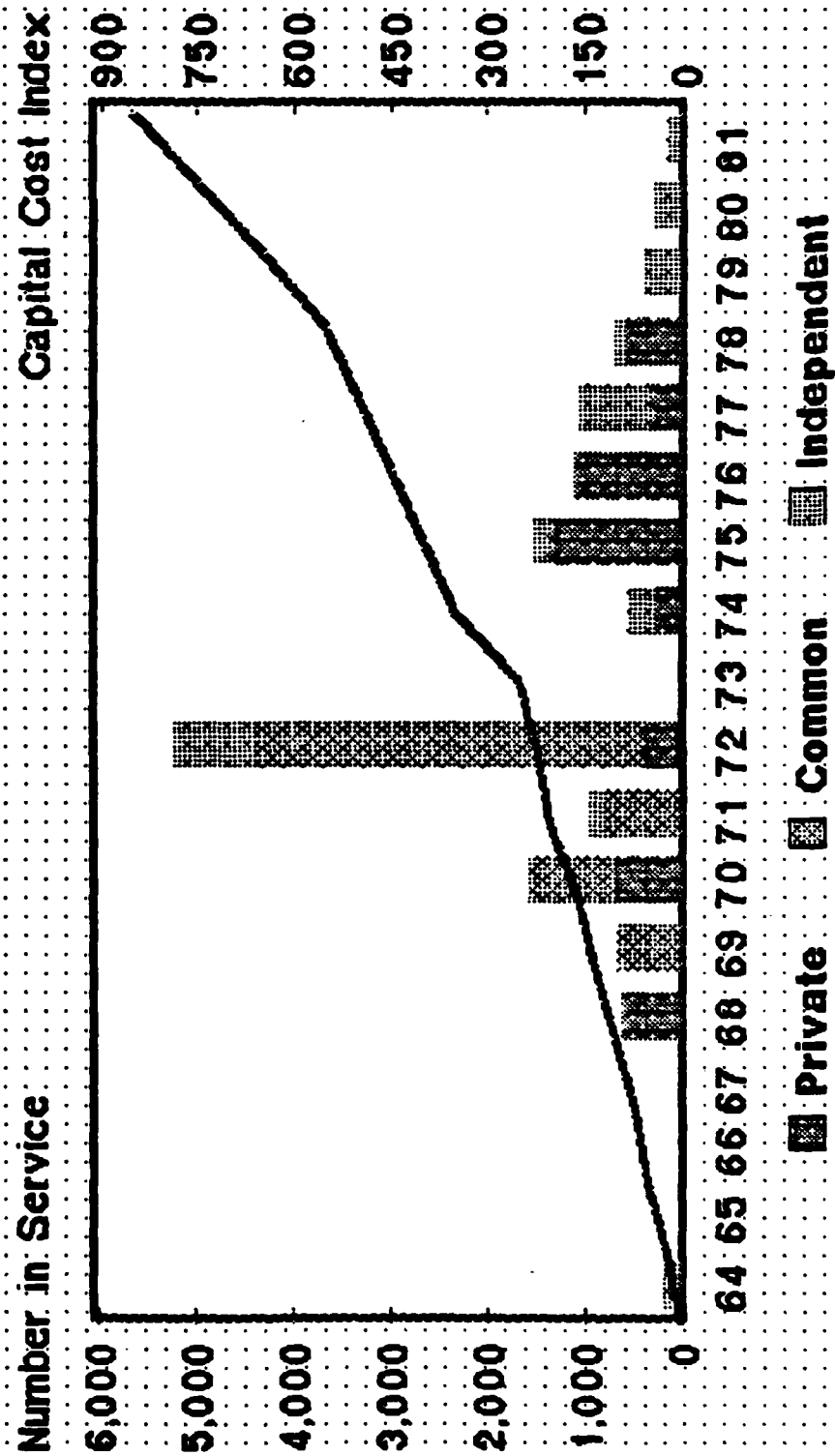
Some covered hopper barges almost 40

Significant numbers built before 1963

- **10% covered fleet**

- **20% open fleet**

AGE AND COST DISTRIBUTION: COVERED BARGE FLEET



CAPITAL COST COMPARISONS: COMMON CARRIERS

Covered fleet

- **Average age 11 - 14 years**
- **Low capital cost level**
 - **Under fleet average**
 - **Less than half of independents**
- **Common carriers have been in low - cost position**
- **Private carriers absorb fleet capital cuts on cargo**

IMPLICATIONS OF OVERSUPPLY

By 1985, 4,500 covered hopper barges will be over 15 years old

- **Almost half current open fleet**
- **More conversions than scrapping expected**
- **Low utilization will depress freight rates, returns, construction**

Scrapping pace too little, too late

- **Scrapping up: 150 in 1980, 500 now**
- **Annual rate of reduction still only 2%**

OVERSUPPLY FACTORS: CONVERSION

Scrapping fully depreciated barges could benefit open hopper market

However, operators tend to convert deteriorating covered barges into open hopper barges

SCRAPPING LEVELS

**20 businesses engaged in scrapping;
some speculate in barges**

Too little; too late

Historical rate: 150 barges per year

1983 rate: about 500 barges per year

Still too little

Need 1,000 per year for several years

THE FLEET REDUCTION DILEMMA

Short Term Supply

- In position - serviceable
- Out of position - serviceable

Long Term Supply

- Out of position - non-serviceable

Used for non-transportation

Moored for fleet use

Sunk for fleet use

Sold for scrap

Scrapped

Sunk

FUTURE FLEET BEHAVIOR

Key to industry recovery

Restraints

Scrapping

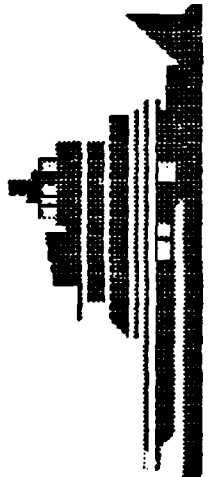
Construction

- Covered construction first
- Lag in open construction
- Limited tank construction

FLEET SUPPLY

Conclusions

- **Supply consistently expanded more rapidly than demand**
- **High rates made reduced coverage of equipment acceptable**
- **One-way nature of new business required freight rate increases**



The Strategic Planning Process for the Inland Barge and Towing Industry

I. BERNARD JACOBSON

TRB / AWO Midyear Meeting

August 13, 1984

**DRAVO MECHLING CORPORATION
TEMPLE, BARKER & SLOANE, INC.**

THE STRATEGIC PLANNING PROCESS FOR THE INLAND BARGE AND TOWING INDUSTRY

RECENT HISTORY UNDERScores THE HIGH

LEVEL OF UNPREDICTABILITY THAT THE

OPERATOR OF AN INLAND BARGE LINE IS LIKELY

TO FACE OVER THE NEXT DECADE. GOVERNMENT-

IMPOSED EXPORT RESTRICTIONS, CHANGING

ENERGY PRICES, AND WORLDWIDE RECESSION CAN

PLAY HAVOC WITH THE MOST CAREFULLY PLANNED

COMPANY STRATEGY.

HOWEVER, EFFECTIVE STRATEGIC PLANNING

CAN HELP MITIGATE MUCH OF THE

DESTABILIZING IMPACT OF THE UNFORESEEN.

EFFECTIVE PLANNING LEADS TO THE

DEVELOPMENT OF STRATEGIES WHICH:

- ALIGN A BARGE LINE'S RESOURCES

TO FOCUS STRENGTHS ON AREAS OF

OPPORTUNITY WHILE AVOIDING

THREATS;

- ENSURE ENOUGH FLEXIBILITY TO

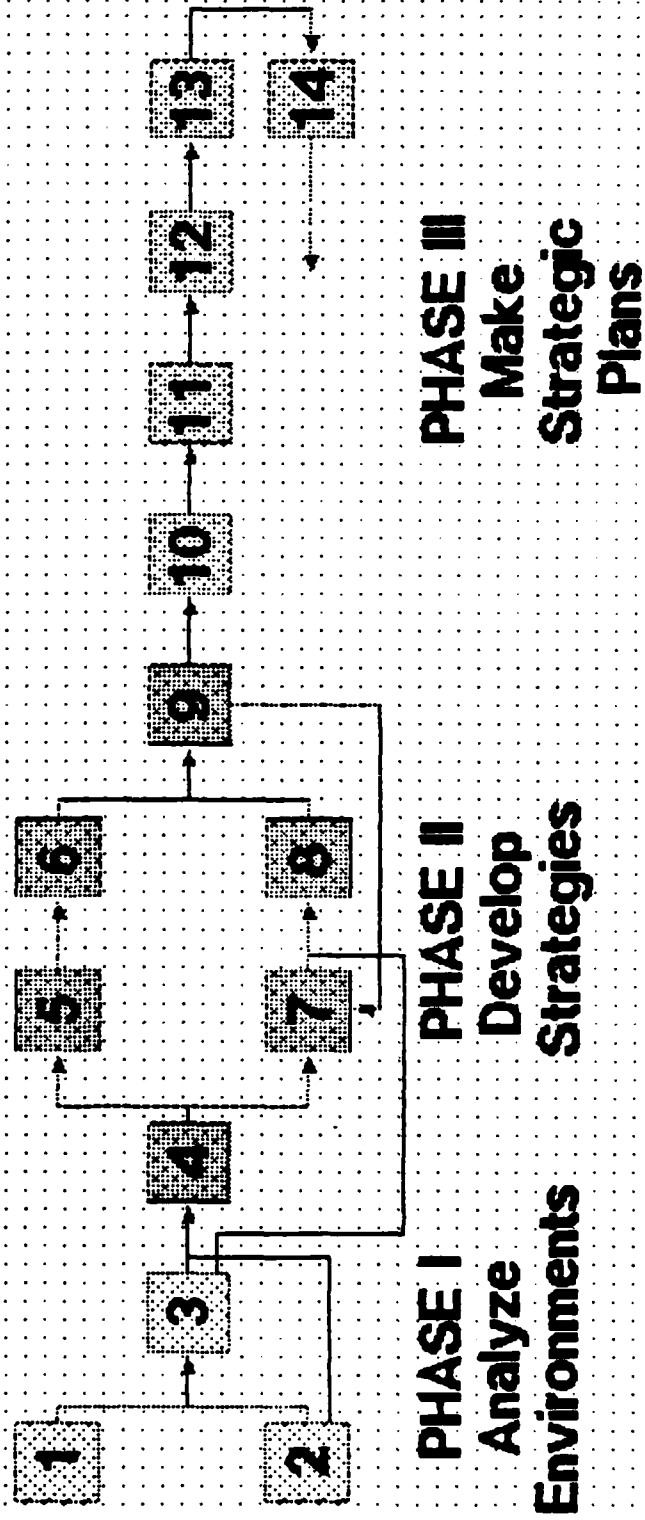
RESPOND TO THE UNFORESEEN; AND

- PROVIDE YARDSTICKS THAT MONITOR

THE COMPANY'S PROGRESS TOWARDS

STRATEGIC OBJECTIVES.

Strategic Planning Phases



STRATEGIC PLANNING PHASES

THIS SLIDE OUTLINES A STRUCTURE FOR PLANNING THAT WE HAVE DEVELOPED TO ENABLE MANAGERS OF INLAND BARGE LINES TO DEAL MORE EFFECTIVELY WITH THE CHALLENGES OF THE FUTURE.

THE PLANNING PROCESS CONSISTS OF

THREE PHASES:

- FIRST, AN ANALYSIS AND FORECAST OF THE COMPANY'S BUSINESS ENVIRONMENTS,
- SECOND, THE DEVELOPMENT OF COMPANY OBJECTIVES AND STRATEGIES, AND
- THIRD, THE IMPLEMENTATION OF THE SELECTED STRATEGY.

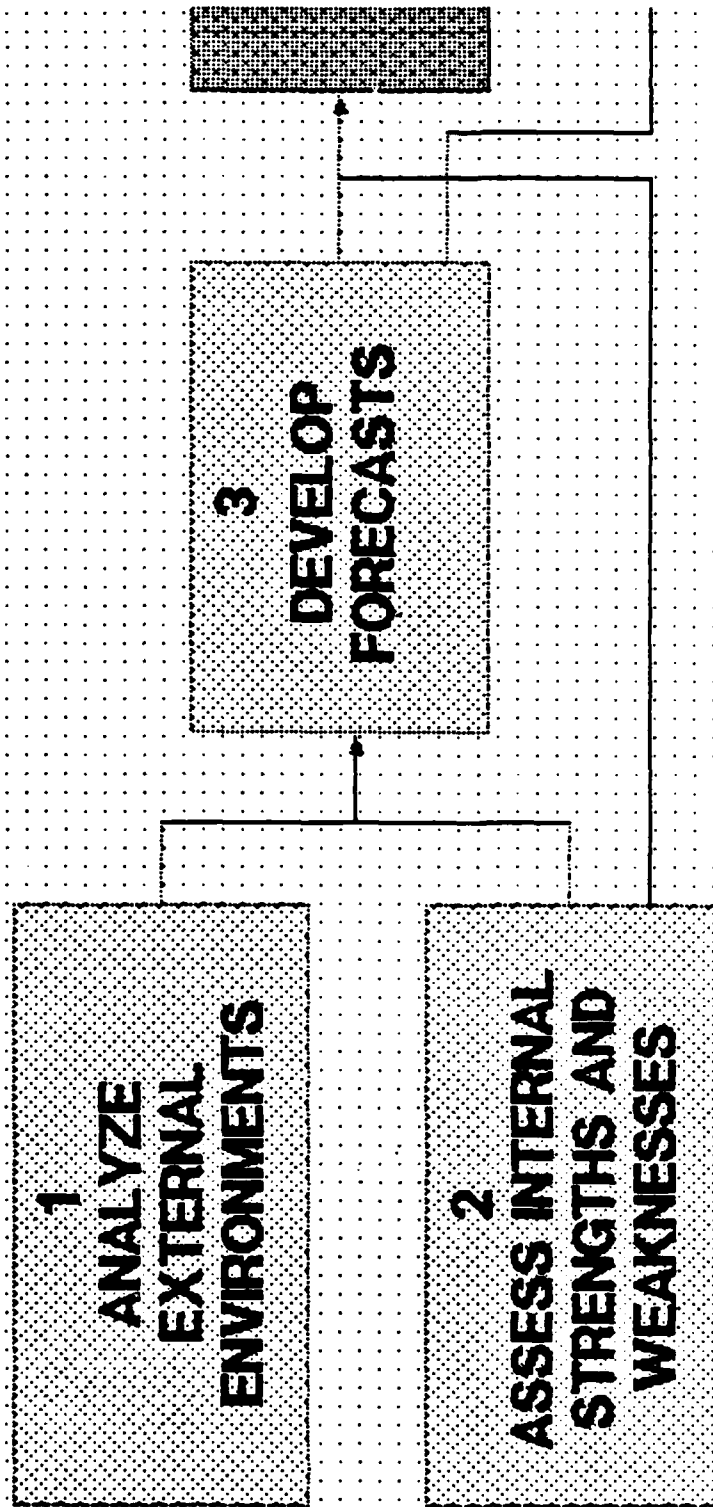
THE PROCESS BEGINS WITH AN ANALYSIS OF THE VARIOUS COMPANY ENVIRONMENTS. THIS ANALYSIS PROVIDES A BASIS FOR THE

PROJECTION OF EXTERNAL FACTORS THAT WILL IMPACT THE COMPANY. AGAINST THIS PROJECTION, AN ASSESSMENT OF THE COMPANY'S CAPABILITIES IS OVERLAID TO DETERMINE ISSUES OF STRATEGIC IMPORTANCE--THOSE FACTORS WHICH MAY PLAY A CRITICAL ROLE IN THE COMPANY'S FUTURE SUCCESS.

ALTERNATIVE STRATEGIES ARE DESIGNED TO ADDRESS THE CHALLENGES OF THE STRATEGIC ISSUES. THESE STRATEGIES ARE RIGOROUSLY TESTED IN THE CONTEXT OF THE FUTURE ENVIRONMENT TO SELECT THE MOST EFFECTIVE.

FINALLY, THE CYCLE IS COMPLETED WITH THE IMPLEMENTATION OF THE SELECTED STRATEGIES. MONITORING PERFORMANCE AGAINST STRATEGIC OBJECTIVES WILL LEAD TO THE IDENTIFICATION OF NEW STRATEGIC ISSUES. THE PROCESS WOULD THEN BEGIN ANEW.

Phase I **Analyze Environments**



PHASE I: ANALYZE ENVIRONMENTS

THE FIRST PHASE OF THE PLANNING PROCESS CONSISTS OF AN ANALYSIS OF IMPORTANT FACTORS AND TRENDS WITHIN THE COMPANY'S EXTERNAL AND INTERNAL ENVIRONMENTS. THIS ANALYSIS THEN FORMS THE BASIS FOR A PROJECTION OF THE LIKELY FUTURE. THE EXTERNAL ENVIRONMENTAL ANALYSIS DEALS WITH

TOPICS SUCH AS:

- THE INDUSTRY,
- THE MARKET,
- COMPETITION, AND
- OTHER ENVIRONMENTAL FACTORS.

THE INTERNAL ENVIRONMENTAL ANALYSIS DEALS WITH THE ASSESSMENT OF THE COMPANY'S OWN STRENGTHS AND WEAKNESSES.

1. Analyze External Environments



- Industry
- Market
- Competitors
- Legal and regulatory
- Physical characteristics
- New technology
- Resources
- Other modes

ANALYZE EXTERNAL ENVIRONMENTS

UNDERSTANDING YOUR COMPANY'S EXTERNAL ENVIRONMENTS WILL REQUIRE KNOWLEDGE OF THESE FACTORS.

AN ANALYSIS OF THE ENTIRE INLAND BARGE AND TOWING INDUSTRY PROVIDES THE STRATEGIC PLANNER WITH A FRAME OF REFERENCE AGAINST WHICH THE PERFORMANCE OF THE COMPANY ITSELF CAN BE ASSESSED. FOR EXAMPLE, KNOWLEDGE OF THE AMOUNT AND AGE OF BARGES AND TOWBOATS AVAILABLE TO THE INDUSTRY WILL GIVE IMPORTANT INFORMATION ABOUT EXPECTED RATE LEVELS AND THEIR PERSISTENCE.

FOR MARKET ANALYSIS, THE TRAFFIC SHOULD BE PROFILED OVER TIME BY COMMODITY AND SHIPPER GROUP IN ORDER TO OBSERVE ANY TRENDS AND SHIFTS IN THE RELATIVE IMPORTANCE OF THOSE MARKET SEGMENTS.

A KEY ASPECT OF COMPETITOR ANALYSIS IS THE PROFILING OF A COMPETITOR'S POSITION RELATIVE TO YOUR COMPANY, IN TERMS OF IMPORTANT BUSINESS ATTRIBUTES. THESE ATTRIBUTES INCLUDE NUMBER AND TYPES OF TOWBOATS AND BARGES IN SERVICE, MARKET SEGMENTS SERVED IN TERMS OF RIVERS AND COMMODITIES, SERVICES OFFERED, RATES, AND MARKET ROLE (LEADER, FOLLOWER, ETC.). THE CRITICAL ELEMENT IN ANALYZING COMPETITORS IS TO LEARN WHO THEY ARE AND THEN TO IDENTIFY AND UNDERSTAND THEIR PRESENT STRATEGY AND THE LIKELY DIRECTIONS OF THEIR FUTURE STRATEGIES.

ANALYZE EXTERNAL ENVIRONMENTS (CONTINUED)

COMPANY'S ADVANTAGE. EXAMPLES OF THESE ISSUES ARE INTERMODAL OWNERSHIP, WATERWAY USER CHARGES, AND ICC DEREGULATION.

CHANGES IN THE INLAND WATERWAY SYSTEM CAN HAVE IMPORTANT IMPACTS ON THE FUTURE OPERATIONS AND MARKETS OF A BARGE LINE. LOCK REPAIRS, LOW WATER, AND FLOODS CAN IMPOSE DELAYS ON PARTICULAR WATERWAYS THAT COULD SERIOUSLY AFFECT THE ECONOMICS OF MARKETS. ON THE OTHER HAND, PLANNED IMPROVEMENTS TO EXISTING WATERWAYS SUCH AS THE 1,200-FOOT LOCK AT ALTON, IL, OR THE NEW WATERWAY CONNECTING THE TENNESSEE AND TOMBIGBEE RIVERS CAN IMPROVE OPERATING EFFICIENCIES OR OPEN UP ENTIRELY NEW MARKETS.

IMPROVEMENTS IN TOWBOAT AND BARGE DESIGN AS WELL AS MATERIALS HANDLING TECHNOLOGY CAN PROVIDE COST REDUCTION OPPORTUNITIES OR OPEN NEW MARKET SEGMENTS

TO A BARGE LINE. IT IS IMPORTANT THAT THE TIMING OF NEW INVESTMENTS IN ADVANCED TECHNOLOGY FIT INTO THE TOTAL FINANCIAL FRAMEWORK OF THE COMPANY.

THE AVAILABILITY OF BARGES, TOWBOATS, FUEL, MANPOWER, AND OTHER KEY RESOURCES THAT ARE USED IN THE BARGE LINE'S OPERATIONS WILL AFFECT THE COST STRUCTURE OF THE COMPANY AND THE INDUSTRY. SINCE BARGE RATES ARE OFTEN SENSITIVE TO CHANGES IN CAPITAL AND OPERATING COSTS, KNOWLEDGE OF SUPPLY AND DEMAND IN THESE RESOURCE MARKETS IS VERY USEFUL FOR A TOTAL UNDERSTANDING OF THE DYNAMICS OF THE BARGE TRANSPORTATION MARKET.

ACTIVITIES OF RAILROADS AND PIPELINES CAN HAVE SERIOUS IMPACTS ON INLAND BARGE LINE MARKETS AND PROFITABILITY. AN AWARENESS OF NEW DEVELOPMENTS IN THESE COMPETING MODES IS CRITICAL TO THE BARGE LINE STRATEGIC PLANNER.

2. Assess Internal Strengths and Weaknesses

- Service
- Customer satisfaction
- Market
- Costs
- Equipment
- Financial
- Information
- Personnel

ASSESS INTERNAL STRENGTHS AND WEAKNESSES

THE NEXT STEP IS TO CONDUCT AN INTERNAL ASSESSMENT OF THE COMPANY'S STRENGTHS AND WEAKNESSES RELATIVE TO OTHERS IN THE INDUSTRY. A PRIME OBJECTIVE OF THE INTERNAL EVALUATION IS TO IDENTIFY YOUR AREAS OF COMPETITIVE ADVANTAGE THAT MAY BE USED TO EXPLOIT FUTURE OPPORTUNITIES. AN EXAMPLE COULD BE THE ADVANTAGE THAT YOUR FULLY DEPRECIATED BARGES GIVE YOU OVER A COMPETITOR WHO MUST COVER HIGHER FIXED COSTS WITH HIS RATES.

HOWEVER, THE PROCESS SHOULD ALSO SEEK TO IDENTIFY AREAS OF WEAKNESS SUCH AS HIGH COST TERMINAL OPERATIONS, WHICH MAY DICTATE FUTURE STRATEGIES TO SHUT DOWN THESE FACILITIES TO DECREASE THE COMPANY'S VULNERABILITY.

PARTICULAR PERFORMANCE CRITERIA THAT SHOULD BE ASSESSED INCLUDE:

- INDICATORS OF SERVICE LEVELS,
- CUSTOMER SATISFACTION,
- MARKET SHARE,
- COST STRUCTURE,
- EQUIPMENT UTILIZATION,
- FINANCIAL PERFORMANCE,
- INFORMATION SYSTEMS,
- AND ADEQUACY OF PERSONNEL.

3. Develop Forecasts



- Demand
- Supply
- Costs
- Rates

DEVELOP FORECASTS

A FORECAST OF DEMAND FOR BARGE SERVICES FOR EACH OF THE COMPANY'S MARKET SECTORS IS CLEARLY A CRITICAL COMPONENT OF ANY LONG-RANGE PLANNING EXERCISE.

IN DEVELOPING A MARKET FORECAST, IT IS NECESSARY TO GO BEYOND AN HISTORICAL ANALYSIS OF COMMODITY MOVEMENTS AND LOOK AT THE UNDERLYING ECONOMIC FORCES THAT DRIVE THE MARKETS. THE DEMAND FOR TRANSPORTATION ON THE RIVER SYSTEM IS DERIVED FROM THE MARKET DEMAND FOR THE GOODS, THEREFORE, THE NEED FOR SHIPPING SERVICES IS DRIVEN BY ECONOMIC CONDITIONS SURROUNDING THE PRODUCTION AND CONSUMPTION OF THE COMMODITIES.

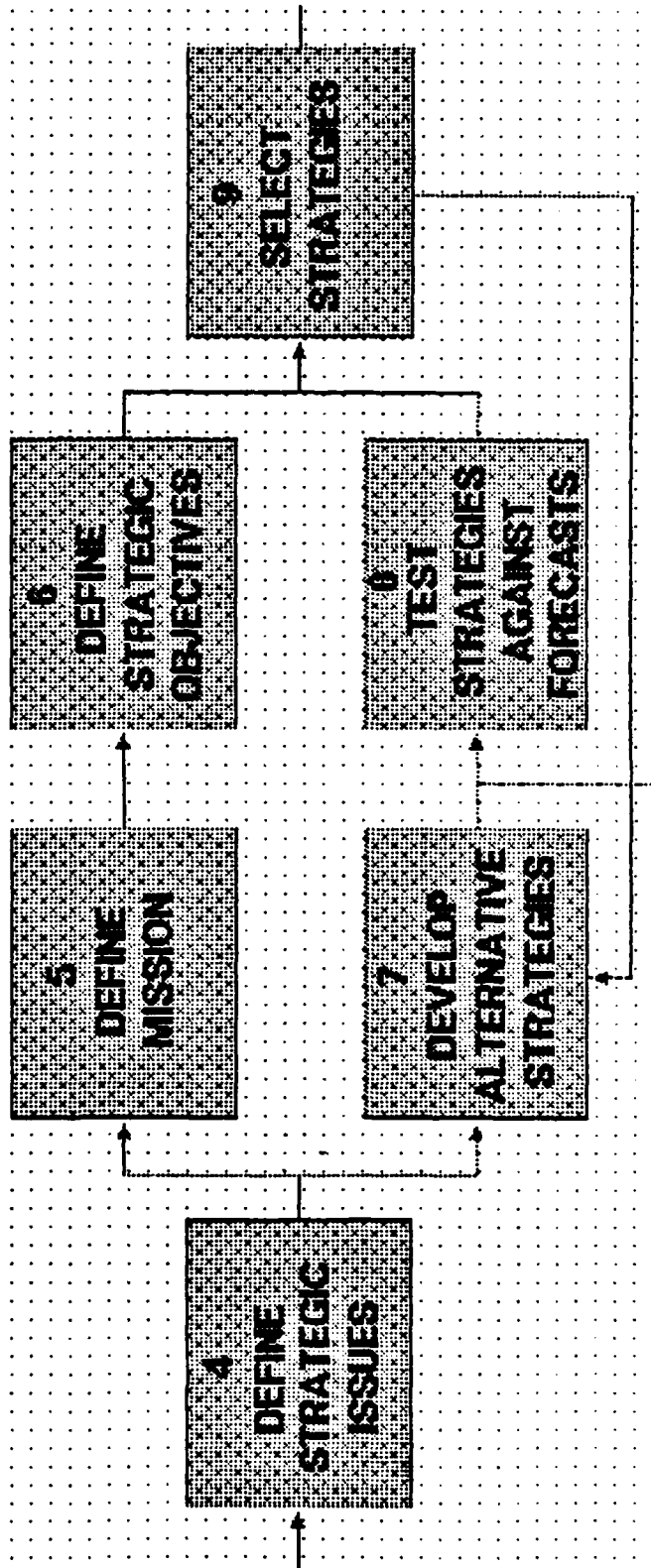
PROJECTIONS OF TRAFFIC LEVELS ON SPECIFIC WATERWAYS INVOLVE FORECASTS OF GENERAL ECONOMIC CONDITIONS AND SPECIFIC SECTORS OF INDUSTRY, MINING, AND AGRICULTURE.

FORECASTS OF THE NUMBER AND TYPES OF BARGES AND TOWBOATS THAT WILL BE AVAILABLE ARE IMPORTANT TO UNDERSTAND THE SUPPLY SIDE OF THE MARKETPLACE. THIS IS USEFUL WHEN ESTIMATING FUTURE BARGE RATES.

ANOTHER ELEMENT THAT DEFINES THE FUTURE MARKETS IS THE COST STRUCTURE THAT YOUR COMPANY AND COMPETITORS WILL HAVE, ECONOMIC FORECASTING SERVICES PROVIDE ESTIMATES OF VARIOUS COST ELEMENTS SUCH AS LABOR, FUEL, AND FLOATING EQUIPMENT.

THE MOST DIFFICULT PROCESS IS ATTEMPTING TO FORECAST RATES. THE EXISTENCE OF THE GRAIN BARGE CALL SESSION SHOWS THAT A NUMBER OF SHIPPERS AND BARGE LINES ARE WILLING TO PUT MONEY BEHIND THEIR FORECASTS.

Phase II Develop Strategies



PHASE II: DEVELOP STRATEGIES

DURING THE SECOND PHASE OF THE PLANNING PROCESS, THE SEPARATE ELEMENTS OF ANALYSIS CARRIED OUT EARLIER MUST BE COMBINED IN ORDER TO DETERMINE THE EFFECTS OF THEIR INTERACTION IN SHAPING THE FUTURE ENVIRONMENT AND THE BARGE LINE'S ABILITY TO PROSPER. A NUMBER OF DIFFERENT ANALYTICAL APPROACHES MAY BE REQUIRED TO INTEGRATE THE SEVERAL COMPONENTS OF THE PRIOR ANALYSIS.

IN CREATING AN UNDERSTANDING OF THE COMPANY'S FUTURE ENVIRONMENT, A NUMBER OF ISSUES WHICH ARE LIKELY TO BE CRITICAL TO THE COMPANY'S SUCCESS WILL BE IDENTIFIED. THESE STRATEGIC ISSUES PROVIDE THE FOCAL POINT FOR THE DEVELOPMENT AND EVALUATION OF ALTERNATIVE STRATEGIES.

4. Define Strategic Issues



- Shifts in traffic
- Equipment availability and utilization
- Competitors' activities
- Legal and regulatory constraints
- Waterway capacity
- Technology applications
- Availability of resources
- Future challenges

DEFINE STRATEGIC ISSUES

STRATEGIC ISSUES ARE MAJOR CHANGES IN THE BARGE LINE'S ENVIRONMENT THAT ARE CONSIDERED LIKELY TO HAVE A SIGNIFICANT IMPACT ON THE COMPANY'S FUTURE.

EARLY IN THE PROCESS, IT IS LIKELY THAT THE ENVIRONMENTAL ANALYSIS WILL IDENTIFY A NUMBER OF IMPORTANT STRATEGIC ISSUES. OTHERS MAY SURFACE LATER AS THE COMPANY'S FUTURE ABILITY TO PERFORM IS PROJECTED AGAINST THE BACKDROP OF THE FORECAST ENVIRONMENT. ISSUES GENERALLY FALL INTO THE FOLLOWING AREAS:

- CHANGES IN THE AMOUNT OF NATURE OF COMMODITIES MOVING ON SPECIFIC WATERWAYS
- TOWBOAT AND BARGE AVAILABILITY
- BEHAVIOR OF COMPETITORS, BOTH BARGE OPERATORS AND OTHER MODES
- LEGAL AND REGULATORY CONSTRAINTS
- WATERWAY CAPACITY CONSTRAINTS
- DEVELOPMENTS IN TECHNOLOGY
- AVAILABILITY OF RESOURCES
- THE COMPANY'S ABILITY TO MEET FUTURE CHALLENGES.

5. Define Mission



- **Broad goals**
- **What markets will be served?**
- **What customer needs will be met?**
- **How will services be provided?**

DEFINE MISSION

A CORPORATE MISSION DEFINES WHAT A COMPANY PLANS TO BE. THE PROJECTED FUTURE ENVIRONMENT PROVIDES A FRAME OF REFERENCE FOR AN EXPRESSION OF THE COMPANY'S MISSION. A STATEMENT OF CORPORATE MISSION NEED ONLY INCLUDE ANSWERS TO THE FOLLOWING QUESTIONS:

- WHAT MARKETS WILL THE COMPANY SERVE?
- WHAT CUSTOMER NEEDS WILL BE MET? AND
- HOW WILL THE COMPANY PROVIDE THOSE SERVICES?

6. Define Strategic Objectives

- Specific targets
- Based on expected future
- Measurable benchmarks
- Commitment to implementation

DEFINE STRATEGIC OBJECTIVES

STRATEGIC OBJECTIVES ARE YARDSTICKS THAT INDICATE THE SUCCESS OF THE COMPANY IN FULFILLING ITS MISSION.

STRATEGIC OBJECTIVES SHOULD BE SPECIFIC AND REFLECT THE COMPANY'S PERCEPTIONS OF THE FUTURE BUSINESS ENVIRONMENT AND ITS OWN ABILITY TO PROSPER WITHIN THAT ENVIRONMENT.

THEY SHOULD PROVIDE MEASURABLE BENCHMARKS FOR TRACKING AND CONTROLLING PERFORMANCE IN ORDER TO IDENTIFY OR ANTICIPATE A NEED FOR MID-COURSE CORRECTIONS.

TO BE SUCCESSFUL, THEY MUST OBTAIN THE COMMITMENT OF THE PERSONNEL WHO ARE RESPONSIBLE FOR IMPLEMENTING STRATEGIES THAT ARE DIRECTED TOWARD THOSE OBJECTIVES.

7. Develop Alternative Strategies

- **Wide perspective**
- **Broad involvement**
- **Quantitative measurements**

DEVELOP ALTERNATIVE STRATEGIES

THE DEVELOPMENT OF STRATEGY FOCUSES ON THE MEANS BY WHICH THE COMPANY CAN MEET THE CHALLENGES POSED BY THE STRATEGIC ISSUES AND ATTAIN ITS STRATEGIC OBJECTIVES.

IN ORDER TO AVOID THE DANGER OF PRESELECTING A LESS-THAN-OPTIMAL STRATEGY, A NUMBER OF ALTERNATIVE STRATEGIES SHOULD BE DEVELOPED FROM A VARIETY OF FUNCTIONAL AREAS OF THE COMPANY. THE PROCESS OF DEVELOPING A NUMBER OF OPTIONS, WHICH ARE THEN SUBJECTED TO RIGOROUS AND UNBIASED TESTING, WILL HELP BUILD CONFIDENCE AND GENERATE A CONSENSUS IN THE FINAL CHOICE OF A STRATEGY.

QUANTITATIVE OUTCOMES SHOULD BE DEVELOPED SO THAT MEASUREMENTS CAN BE MADE.

8. Test Strategies Against Forecasts

- Simulate outcomes
- Assume ranges
 - Traffic
 - Rates
 - Equipment utilization
 - Costs
- Project results

TEST STRATEGIES AGAINST FORECASTS

EACH STRATEGIC OPTION SHOULD POSSESS SUFFICIENT DETAIL SO THAT RESOURCE REQUIREMENTS, CASH FLOWS, AND MARKET POSITION ARE CLEARLY DEFINED OVER THE PLANNING PERIOD.

COMPUTER SIMULATION PROVIDES A HIGHLY EFFECTIVE MEANS OF INTEGRATING THE DIVERSE ELEMENTS PRODUCED BY THE STRATEGIC ANALYSIS. SIMULATION TESTS THE STRATEGIC OPTIONS UNDER PROJECTED ENVIRONMENTAL CONDITIONS OVER THE FULL SPAN OF VARIABLES DURING THE PLANNING PERIOD. ASSUMPTIONS ON FUTURE TRAFFIC LEVELS, RATES, EQUIPMENT UTILIZATION, AND OPERATING COSTS CAN BE LOADED INTO AN INTERACTIVE COMPUTER MODEL TO TEST THE RANGE OF OUTCOMES.

IN THE PROCESS OF TESTING AND EVALUATION, IT IS POSSIBLE THAT ADDITIONAL STRATEGIC ISSUES MAY EMERGE, REQUIRING A LOOP BACK TO THE DEVELOPMENT OR REFINEMENT OF FURTHER STRATEGIES TO DEAL WITH THE NEW ISSUES.

9. Select Strategies Against Criteria

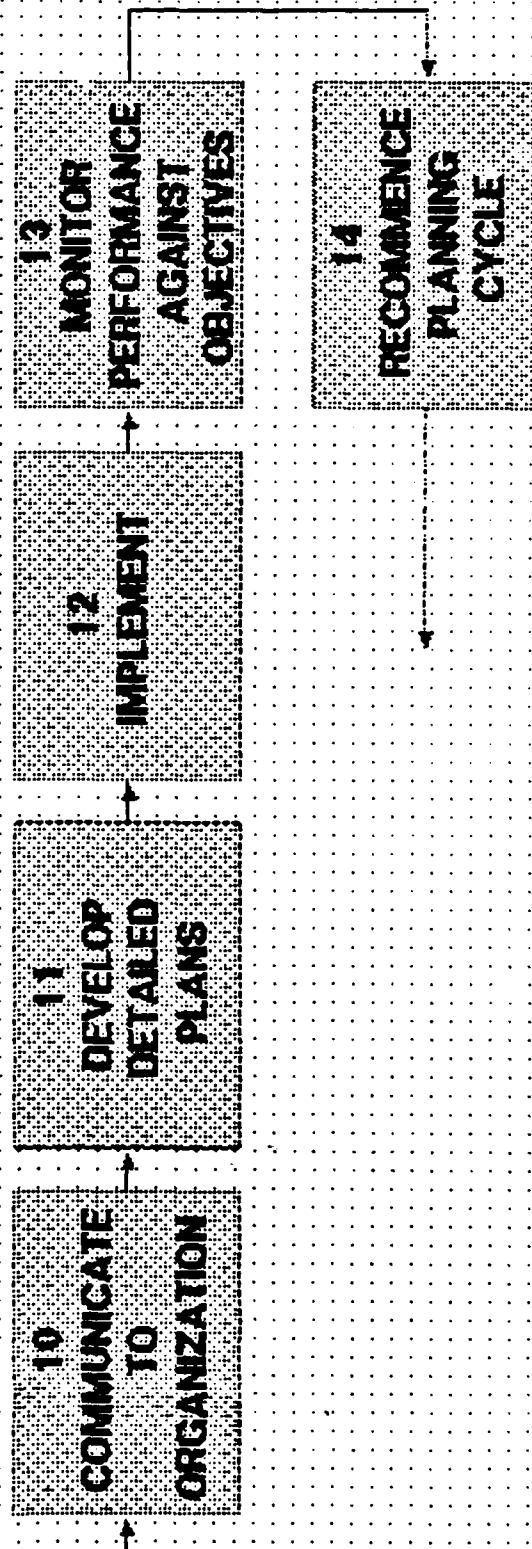
- **Financial performance**
- **Market share**
- **Flexibility of response**
- **Minimal downside risk**
- **Resource utilization**

SELECT STRATEGIES AGAINST CRITERIA

THE PROJECTED PERFORMANCE OF EACH OF THE STRATEGIC ALTERNATIVES SHOULD BE ASSESSED AGAINST SELECTED CRITERIA, SUCH AS FINANCIAL MEASURES OF INTERNAL RATE OF RETURN, MARKET SHARE, EQUIPMENT UTILIZATION STANDARDS, AND OTHER REPORTED RESULTS.

OTHER CRITERIA INCLUDE CONSISTENCY WITH STRATEGIC OBJECTIVES, FLEXIBILITY OF RESPONSE TO UNFORESEEN CHANGES IN THE ENVIRONMENT, MINIMIZATION OF DOWNSIDE RISK, AND EFFECTIVE UTILIZATION OF HUMAN AND CAPITAL RESOURCES.

Phase III **Make Strategic Plans**



PHASE III: MAKE STRATEGIC PLANS

THE THIRD AND FINAL PHASE OF THE PLANNING PROCESS CULMINATES IN A PLAN WHICH IS BOTH COMPREHENSIVE AND CAPABLE OF IMPLEMENTATION. OF PRIMARY IMPORTANCE IN THIS PHASE IS THE COMMUNICATION OF THE UNDERLYING ASSUMPTIONS AS WELL AS THE DETAILS OF THE STRATEGIC DECISION TO ALL THOSE CONCERNED WITH ITS IMPLEMENTATION.

10. Communicate to Organization

- **Involve middle management**
- **Describe**
 - **Objectives**
 - **Assumptions**
 - **Benefits**
- **Listen**

COMMUNICATE TO ORGANIZATION

RESPONSIBILITY MUST BE CLEARLY GIVEN TO THOSE EXPECTED TO CARRY OUT THE STRATEGY. MANY OF THESE INDIVIDUALS MAY ALREADY HAVE PARTICIPATED IN THE DEVELOPMENT OF THE STRATEGY. THEIR INVOLVEMENT WILL SIGNIFICANTLY EASE THE PROCESS AT THIS CRITICAL STAGE BY INSTILLING CONFIDENCE TO OTHER MEMBERS OF THE COMPANY IN THE SELECTED STRATEGY.

ABOVE ALL, LISTEN TO THE FEEDBACK FROM YOUR MANAGERS.

11. Develop Detailed Plans

- **Marketing**
- **Competitive**
- **Operations / service**
- **Financial**
- **Organizational / personnel
development**
- **Corporate development**

DEVELOPED DETAILED PLANS

A SERIES OF DETAILED BUSINESS PLANS WILL TRANSFORM THE STRATEGY FROM THE ABSTRACT TO THE CONCRETE. THESE PLANS CAN BE INTEGRAL PARTS OF FORMAL PLANNING DOCUMENTS, SUCH AS FIVE-YEAR AND ANNUAL PLANS. THESE PLANS INCLUDE:

- THE MARKETING PLAN SHOULD IDENTIFY AND PRIORITIZE SPECIFIC CUSTOMER NEEDS TO BE SERVED AND WHERE SALES EFFORTS WILL BE FOCUSED.
- THE COMPETITIVE PLAN SHOULD DEVELOP THE SPECIFIC ACTIONS THE ORGANIZATION SHOULD TAKE TO FORESTALL, BYPASS, OVERWHELM, OR CO-OPT ANY COMPETITIVE ACTIONS THAT COULD PROVE DAMAGING TO THE STRATEGIC PLAN.

- THE OPERATIONS/SERVICE PLAN SHOULD DETAIL HOW THE ORGANIZATION WILL CARRY OUT ITS STRATEGY TO MEET THE DEVELOPMENT OF SERVICES CALLED FOR IN THE STRATEGY.
- THE FINANCIAL PLAN SHOULD INCLUDE SHORT-TERM DETAIL FROM WHICH BUDGETS AND FINANCIAL CONTROLS CAN BE DEVELOPED.
- THE ORGANIZATIONAL/PERSONNEL DEVELOPMENT PLAN SHOULD DESCRIBE HOW HUMAN RESOURCES WILL BE DEVELOPED.
- THE CORPORATE DEVELOPMENT PLAN SHOULD SYNCHRONIZE THE NEEDS AND THE CONTRIBUTIONS OF THE BARGE LINE WITH THOSE OF THE REST OF ANY MULTI-BUSINESS UNIT CORPORATION.

12. Implement

- Proceed according to plan
- Analyze alternatives
- Vary plan when appropriate

IMPLEMENT

AN ESTABLISHED PLANNING SYSTEM

PROVIDES A CAPABILITY TO RESPOND QUICKLY TO MEET THE CHALLENGE OF SHORT-TERM CRISES AS WELL AS LONG-TERM PLANNING NEEDS. QUICK REACTIONS ARE BUILT INTO THE SYSTEM THROUGH THE EARLY-WARNING SENSORS INHERENT IN THE CONTINUOUS PROCESS OF COLLECTING AND ANALYZING STRATEGIC INFORMATION. ADDITIONALLY, MANAGEMENT WILL HAVE BECOME EXPERIENCED IN INTERPRETING AND ACTING UPON THE ANALYSIS OF STRATEGIC INFORMATION.

THE EXISTENCE OF A STRATEGIC PLAN ALSO HELPS ENSURE THAT SHORT-TERM DECISIONS DO NOT OVERCORRECT THE COMPANY'S COURSE IN MOMENTS OF CRISIS SO THAT ALL DECISIONS ARE MADE IN LIGHT OF LONGER-TERM GOALS AND OBJECTIVES.

13. Monitor Performance Against Objectives

- Quantitative yardsticks
- Monitor external events
 - Markets
 - Competitors
 - Other factors
- Monitor performance
 - Sales
 - Operations
 - Costs

MONITORING PERFORMANCE AGAINST OBJECTIVES

YARDSTICKS ARE USED TO GAUGE AND MONITOR PROGRESS. THESE MEASUREMENTS OF EXTERNAL EVENTS AND INTERNAL PERFORMANCE PROVIDE AN EARLY-WARNING SYSTEM AS WELL AS A SET OF SIGNPOSTS FOR STRATEGIC DIRECTION.

SHOULD THE ENVIRONMENT ALTER SO THAT THE ORIGINAL STRATEGIC PLAN BECOMES UNWORKABLE, THE YARDSTICKS PROVIDE AN EARLY INDICATION OF ANY MAJOR DIFFERENCES BETWEEN PLAN AND REALITY.

14. Recommence Planning Cycle

- Match to annual budget cycle
- Refine analytical techniques
- Revise measurements
- Integrate process

RECOMMENCE PLANNING CYCLE

THE PROCESS CONTINUES DURING THE NEXT ANNUAL CYCLE WHEN IMPROVEMENTS ARE MADE IN BOTH ANALYSIS AND MEASUREMENTS.

THE ESSENCE OF STRATEGIC PLANNING IS THE PROCESS OF PLANNING, NOT THE PLAN. A FORMALIZED SYSTEM AS WE HAVE DESCRIBED IS NEEDED TO GUIDE AND STIMULATE THE PROCESS OF STRATEGIC PLANNING. IN THE END, THE PLAN IS THE PRODUCT OF A SERIES OF ASSUMPTIONS ABOUT THE FUTURE, SOME OF WHICH ARE BOUND TO PROVE INACCURATE. IT IS THE PROCESS OF PLANNING THAT IS DYNAMIC AND IS CRITICAL IN DIRECTING THE ENTERPRISE THROUGH THE UNCERTAINTIES OF THE FUTURE.

A STRATEGIC PLANNING SYSTEM CAN PROVIDE TREMENDOUS ASSISTANCE TO THE MANAGERS OF A BARGE LINE FOR EFFECTIVE DECISION MAKING. THE MAIN ASSETS OF SUCH

A SYSTEM INCLUDE:

- THE GREATER DEPTH AND PERSPECTIVE IT ADDS TO A COMPANY'S UNDERSTANDING OF THE ENVIRONMENT;
 - THE INCREASED COMMUNICATION IT CREATES BETWEEN PEOPLE WITHIN THE COMPANY IN THE EXPRESSION OF OBJECTIVES,
 - THE SENSING OF NEEDS, AND
 - THE DEVELOPMENT OF STRATEGIES.
- FINALLY, IT RESULTS IN THE COORDINATION OF ALL THE COMPANY'S RESOURCES INTO A CONSENSUS-BASED STRATEGY WHICH EFFECTIVELY POSITIONS THE COMPANY TO PROSPER IN THE FUTURE.

Implementing the Strategic Planning Process

L.E. SUTTON

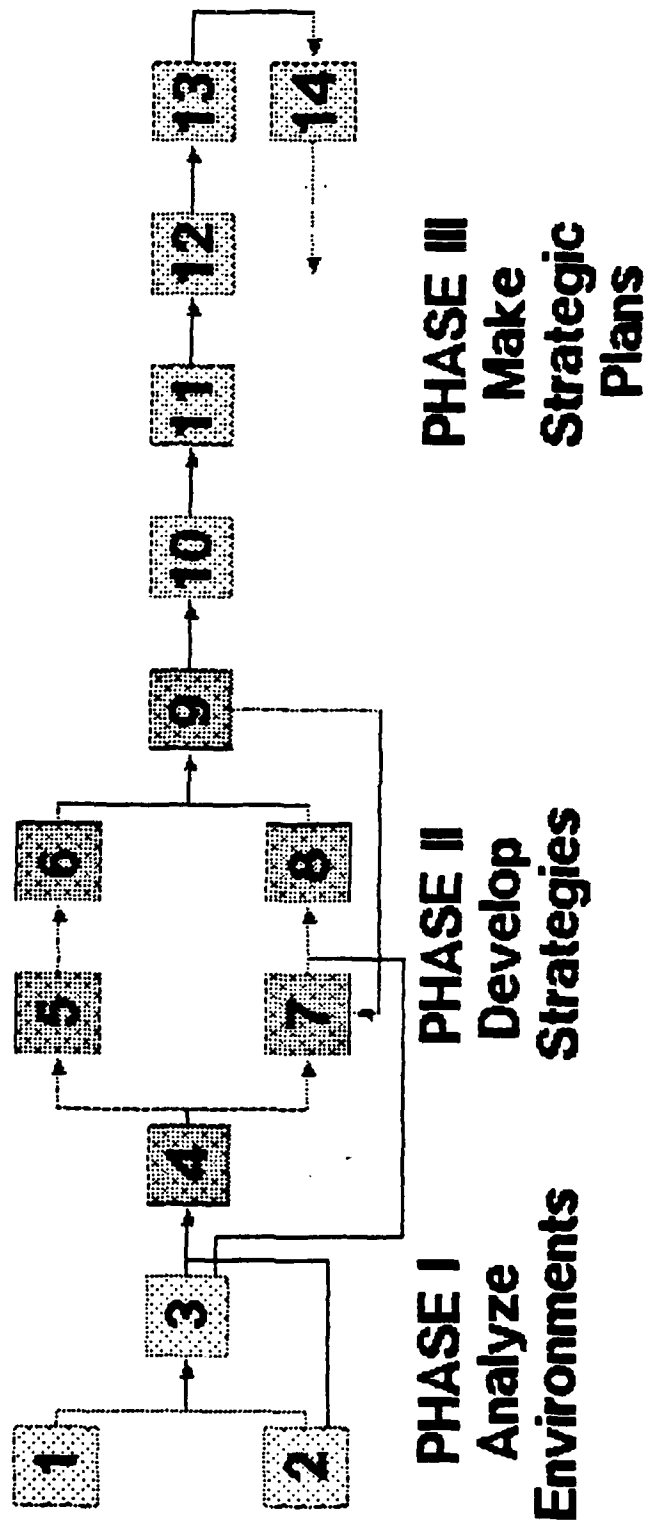
TRB/AWO Midyear Meeting

August 13, 1984

**DRAVO-MECHLING CORPORATION
TEMPLE, BARKER & SLOANE, INC.**

NOW I WILL DESCRIBE HOW WE ACTUALLY IMPLEMENTED THE PLAN.

Strategic Planning Phases



YOU RECALL THE THREE PHASES OF THE PROCESS.

Participation in the Planning Process

Phase I

Analysis of Environments

- Company staff -- minor
- Consultants -- major

Phase II

Strategy Development

- Company staff -- major
- Consultants -- minor

Phase III

Strategic Plans

- Company staff -- major
- Consultants -- none

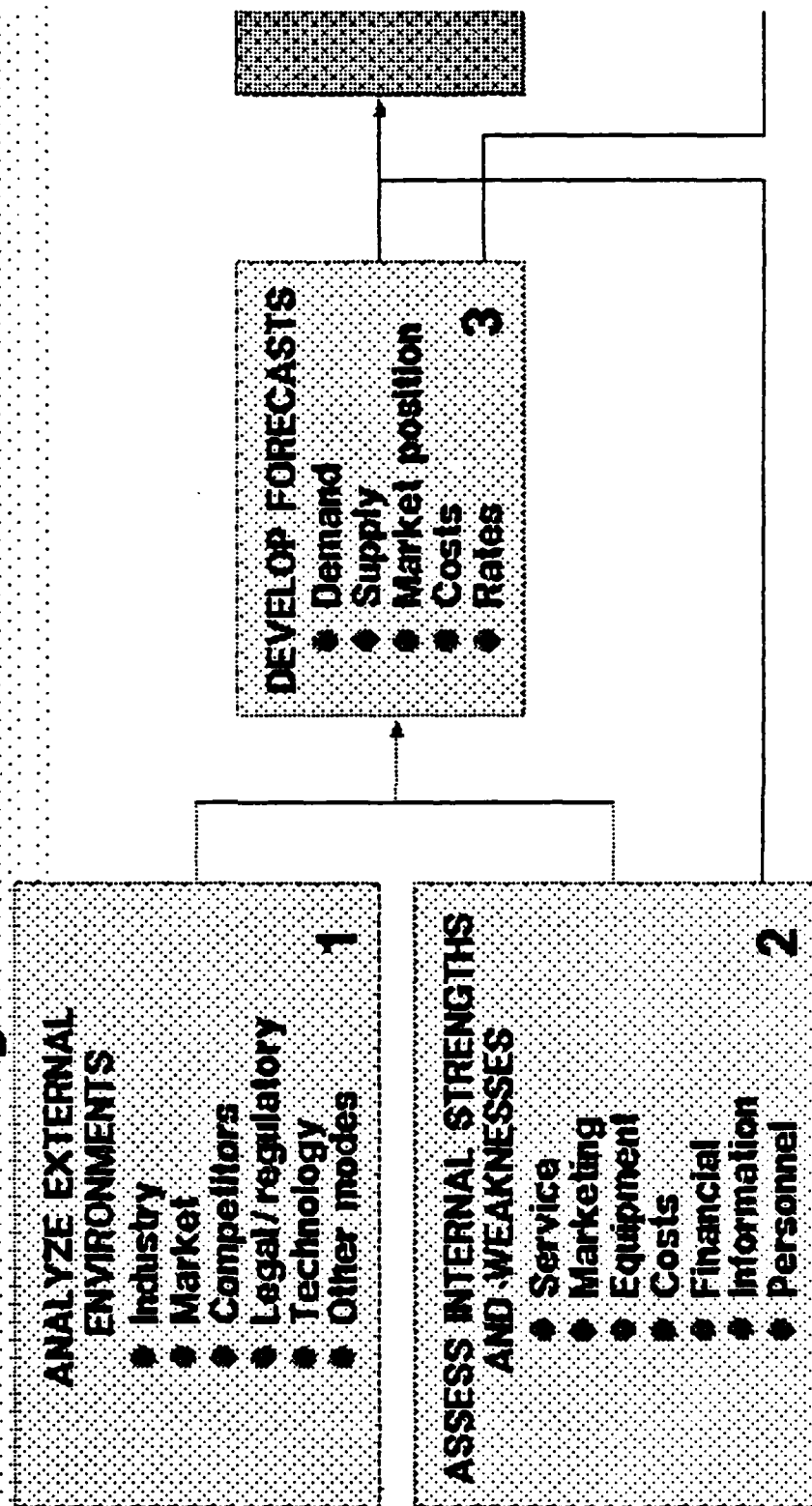
IN PHASE I, ANALYSES OF THE EXTERNAL ENVIRONMENTS, OUR COMPANY STAFF HAD MINOR INVOLVEMENT AND THE PRIMARY RESPONSIBILITY FELL TO THE CONSULTANTS.

IN PHASE II, STRATEGY DEVELOPMENT, COMPANY INVOLVEMENT WAS MAJOR WITH THE CONSULTANTS SERVING AS CATALYSTS CHALLENGING US AND INSURING THAT WE DIDN'T SELL OURSELVES SHORT, OR SET UNREACHABLE GOALS.

IN PHASE III, ACTUAL DEVELOPMENT AND RECORDING OF THE PLANS, ALL THE WORK WAS IN COMPANY.

Phase I

Analyze Environments



PHASE I REQUIRES A GREAT DEAL OF DATA COLLECTION AND ANALYSIS BOTH WITHIN THE COMPANY
AND FROM OUTSIDE SOURCES.

Analyze External Environments

- Limited industry data sources
 - Annual reports
 - Former employees
 - Customers
 - Government reports and studies

AS I SAID EARLIER AND AS MANY OF YOU KNOW, DATA ON THE INLAND WATERWAYS INDUSTRY IS EXTREMELY LIMITED. INCIDENTALLY, YOUR CHAIRMAN INTENDS TO UNDERTAKE A PROJECT WHICH WILL CORRECT SOME OF THIS DEFICIENCY. BUT UNTIL HE DOES, YOU SCROUNGE THIS DATA FROM EVERY SOURCE YOU CAN.

Analyze External Environments

- **Market information**
 - **Salesmen**
 - **Trade publications**
 - **Call session**
 - **Customers**

MARKET INFORMATION IS ALSO VERY SPARSE. THE CALL SESSION IS THE ST. LOUIS MERCHANTS
EXCHANGE BARGE FREIGHT CALL SESSION.

Analyze External Environments

- Legal/regulatory and technological
 - AWO, WTA, NWC
 - Equipment suppliers
 - Trade publications

INDUSTRY ORGANIZATIONS LIKE THE AMERICAN WATERWAY OPERATORS, WATER TRANSPORT ASSOCIATION, AND THE NATIONAL WATERWAY CONFERENCE ARE ALSO GOOD SOURCES OF INDUSTRY DATA.

INCIDENTALLY, THE NATIONAL WATERWAY CONFERENCE ANNUAL MEETING IS IN NASHVILLE, SEPTEMBER 19 THROUGH 21ST. I JUST HAPPENED TO HAVE SOME REGISTRATION FORMS WITH ME IN CASE YOU ARE INTERESTED.

Assess Internal Strengths and Weaknesses

- Compare to competitors
 - Service
 - Equipment
 - Costs
 - Financial performance
 - Information systems
 - Management and personnel
- Survey shippers

ASSESSING INTERNAL STRENGTHS AND WEAKNESSES SEEMS EASY BUT IT ISN'T.

THE CONSULTANTS HAD TO PROD US ALONG HERE. WE ADDED A SHIPPER SURVEY TO FIND OUT
WHAT OUR CUSTOMERS THOUGHT OF US.

Shipper Survey

- **Selected customers and non - customers**
- **Asked different questions to each type of shipper**
 - **Grain**
 - **Coal**
 - **Other dry bulk**
 - **Liquid**
 - **Regulated**

ACTUALLY, WE SURVEYED BOTH CUSTOMERS AND NON-CUSTOMERS. WE SEGREGATED THE CUSTOMERS
BY COMMODITY.

Shipper Survey

- **Did not identify our company**
- **Listed five to eight carriers for comparison**
- **Found shippers willing to talk**

TO INSURE OBJECTIVE ANSWERS, WE DID NOT IDENTIFY OUR COMPANY. WE ASKED THE
RESPONDENTS TO COMPARE US TO OUR COMPETITORS. WE FOUND MOST SHIPPERS WILLING TO TALK.

Typical Survey Question

**Of the following barge lines,
which do you think provides
the best quality barges?**

HERE IS A TYPICAL QUESTION: "OF THE FOLLOWING BARGE LINES, WHICH DO YOU THINK PROVIDES THE BEST QUALITY BARGES?"

Topics Covered in Customer Survey

- Overall service
- Delivering empty barges where and when needed
- Quality of barges
- Keeping shipper advised of location
- Solving problems
- Competitive rates

WE ASKED ABOUT:

--OVERALL SERVICE

--WERE EMPTY BARGES DELIVERED WHERE AND WHEN THEY WERE NEEDED?

--THE QUALITY OF THE BARGES

--WAS THE SHIPPER KEPT ADVISED ON THE LOCATION OF THE CARGO?

--HOW GOOD WAS EACH COMPANY AT SOLVING PROBLEMS?

--WHICH COMPANIES HAD THE MOST COMPETITIVE RATES?

Results of Customer Survey

- **Overall**
 - Dravo consistently better than average
 - Proved that customers had better opinion of our service than we had
- **Grain**
 - Rates are market-determined, therefore level of service counts
- **Coal**
 - Shippers concerned with condition of most carriers' equipment

WE FOUND, AS WE EXPECTED, THAT DRAVO MECHLING WAS PERCEIVED AS BETTER THAN AVERAGE. WHAT WE DIDN'T EXPECT WAS THAT OUR CUSTOMERS THOUGHT WE WERE BETTER THAN WE THOUGHT WE WERE.

AFTER REFLECTION, WE REALIZED THE REASON. YOU HEAR MORE OFTEN FROM CUSTOMERS WHEN THERE ARE PROBLEMS, SO IT'S EASY FOR SALES PEOPLE AND MANAGEMENT TO UNDERRATE THE QUALITY OF THEIR OWN SERVICE.

GRAIN SHIPPERS SAID THAT RATES WERE DETERMINED BY THE MARKET, SO SERVICE WAS IMPORTANT BUT NOT LIKELY TO BE REFLECTED IN THE RATE.

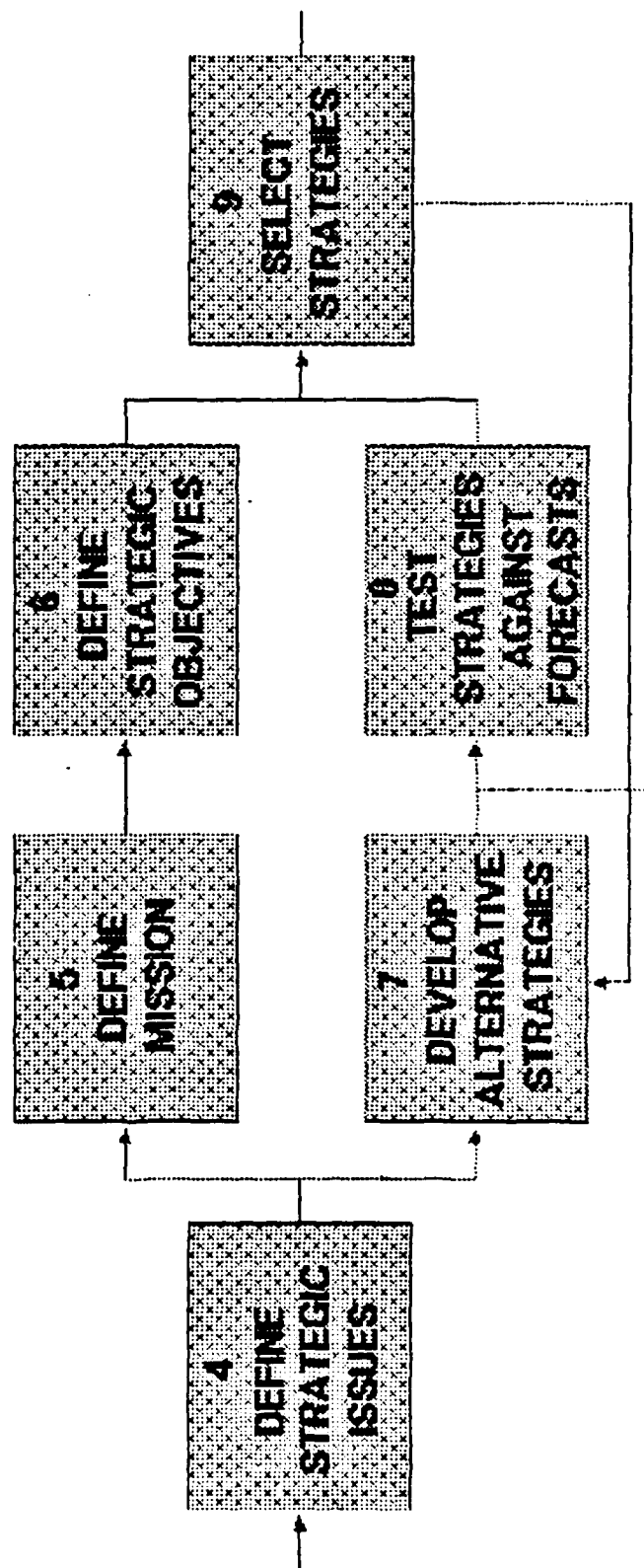
COAL SHIPPERS WERE CONCERNED BY THE CONDITION OF MOST CARRIERS' EQUIPMENT. THIS WAS ANOTHER AREA OF SURPRISE FOR US. OUR OPEN HOPPER FLEET IS OLDER THAN THE INDUSTRY AVERAGE, BUT THE CUSTOMERS DIDN'T FIND IT TO BE IN ANY WORSE SHAPE THAN OUR COMPETITORS.

Results of Customer Survey

- **Drybulk**
 - Shippers want to know where their cargoes are
- **Liquid**
 - Service considered most important
- **Regulated**
 - Customers reluctant to differentiate carriers

SERVICE, SERVICE, SERVICE. A CONSISTENT THEME THROUGHOUT THE SURVEY.

Phase II Develop Strategies



WITH THE ENVIRONMENT DEFINED, STRATEGY DEVELOPMENT WAS NEXT.

Strategy Development

- **Defined mission and strategic objectives**
 - **Began with small core of top management**
 - **Distributed to all top and middle management for selection and ranking**
 - **Developed consensus**

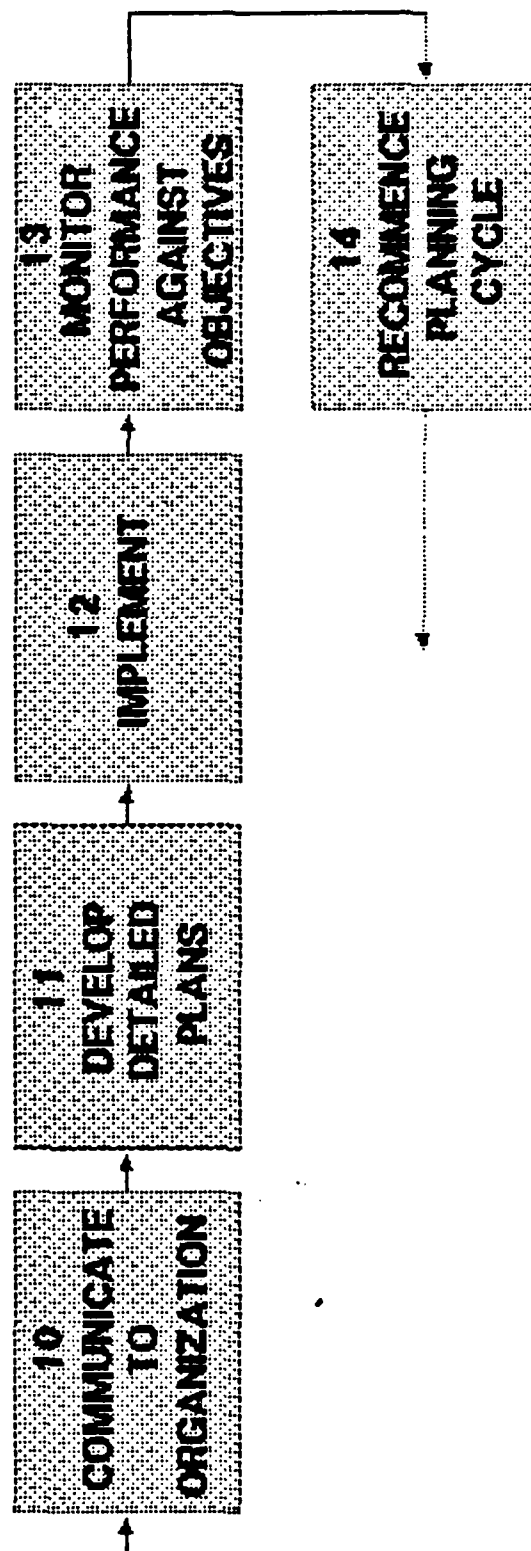
WE BEGAN WITH A SMALL CORE OF TOP MANAGEMENT, MYSELF AND THOSE REPORTING TO ME. WE
DISTRIBUTED THOSE IDEAS TO THE NEXT LEVEL FOR RANKING. WE DEVELOPED CONSENSUS.

Strategy Development

- Defined and tested alternative strategies
 - Small group of participants
 - Computer simulation to calculate impacts
 - Fit with corporate planning requirements

WE DEFINED AND TESTED THE ALTERNATIVES, THEN MADE OUR STRATEGY FIT THE CORPORATE PLANNING REQUIREMENTS.

Phase III Make Strategic Plans



ONCE ACCEPTED BY THE CORPORATION, THE IMPORTANT WORK BEGAN.

Implementation

- **Communicated mission, objectives, and strategies to middle- and lower-management levels**
- **Developed plans**
 - **Marketing**
 - **Operations**
 - **Information systems**
 - **Organization**

WE COMMUNICATED THE MISSION, OBJECTIVES, AND STRATEGIES THROUGHOUT THE ORGANIZATION.
WE DEVELOPED DETAILED PLANS BY DIVISION.

Implementation

- All division managers used company mission and objectives to write division goals
- All managers used division goals to write personal job descriptions

ALL MANAGERS WROTE GOALS FOR THEIR DIVISIONS OR DEPARTMENTS. THEN ALL MANAGERS USED THESE GOALS TO WRITE THEIR OWN JOB DESCRIPTIONS. MANY OTHER EMPLOYEES ALSO WROTE OR UPDATED JOB DESCRIPTIONS. THIS WAS DONE TO INSURE THAT INDIVIDUAL GOALS REFLECTED CORPORATE GOALS.

Performance Monitoring

- Established information systems to measure
 - Barge trip profitability
 - Towboat utilization
 - Towing costs
 - Port service costs
 - Bookings
 - Revenues
 - Rates
- Quantitative, timely, and reliable indicators

THE FINAL PHASE AND REALLY MOST IMPORTANT WAS TO MONITOR PROGRESS AGAINST THE PLAN.
YOU OBVIOUSLY MUST HAVE ADEQUATE INFORMATION SYSTEMS IN PLACE TO DO THIS.

ACTUALLY, WE FOUND OURS NEEDED IMPROVEMENT.

IN SUMMARY, STRATEGIC PLANNING IS A TOUGH PROJECT.

IT TAKES DISCIPLINE. IT TAKES TOP MANAGEMENT DEDICATION. IT TAKES A FORMAT.

IT'S THE FORMAT AND THE HOW-TO THAT WE'VE PROVIDED. EACH BARGE COMPANY WILL NOW HAVE
TO PROVIDE ITS OWN DISCIPLINE AND DEDICATION.

END

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