

# Optimization

Identifying the advertising media schedule with the greatest potential effects given:

- Criteria
- Constraints
- Model

# Optimization Criteria

- Message versus vehicle audience
- Reach (1+)
- Effective reach (3+)
- Average frequency
- Gross rating points
- Cost-per-thousand impressions

# Optimization Constraints

- Target audience
- Budget
- Available vehicles
  - Costs
  - Ratings
- Insertion Limits
- Message-vehicle ratios

# Optimization Model

- Reach-Frequency Algorithms (BBMD)
- Optimization Procedures
  - True, Exhaustive
  - Heuristics
- Overall Capability
  - Media Categories
  - Combinations
  - Speed

# Importance of Optimization

- High cost of advertising
- Problem size
- Problem complexity
- Frequent decisions

# Need for Optimization

## High cost

- \$190 billion spent on ads yearly
- \$14 million typical brand budget
- \$200,000+ typical prime-time network TV ad cost
- \$100,000+ magazine 4-color, full-page cost

# Need for Optimization

## Problem Size

- 1,073,741,800 possible monthly schedules with 30 monthly magazines ( $2^{30}$ )
- 17,488,747 possible monthly schedules with up to 4.3 ads in ten weekly magazines ( $5.3^{10}$ )
- Mixed media schedules
  - 100 consumer magazines
  - 60 prime time TV programs
  - 25 daytime TV programs
  - 100 syndicated TV programs
  - 12 cable TV networks
  - 16 radio networks
  - 4 national newspapers
  - 3 newspaper supplements
- Multiple time periods

# Need for Optimization

## Problem Complexity

- Separate media characteristics and evaluation
- Mixed-media evaluation
- Message versus vehicle audiences
- Repetition effects
- Wear-out, forgetting, decay, retention
- Schedule timing
- Cost quantity discounts
- Optimization generally and applied to advertising
- Computer speed, power, parallel processing

# Example Magazine Data Base

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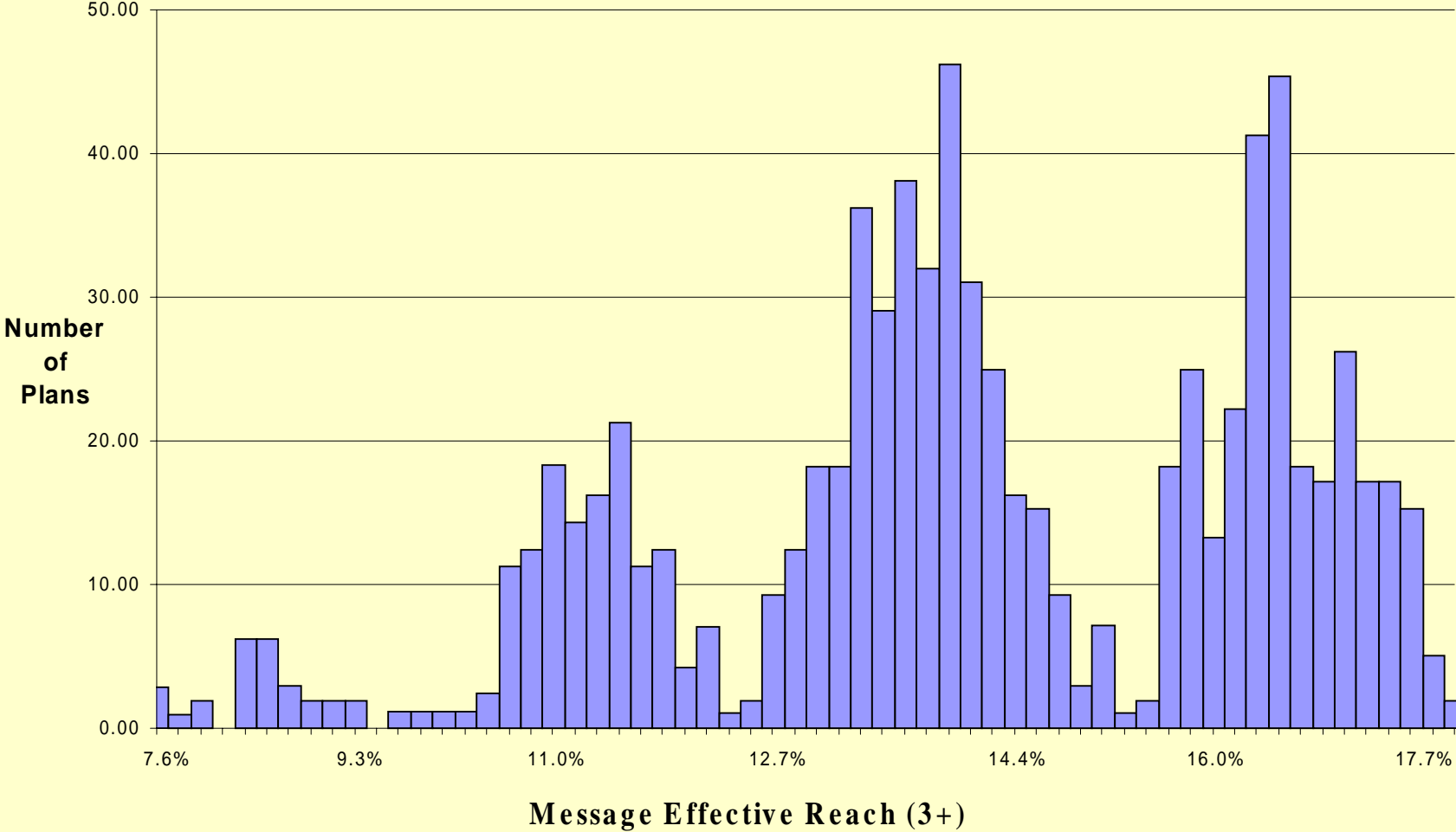
Magazine	Rating	Ad Cost	<u>Insertions</u>	
			Minimum	Maximum
1. Reader's Digest	26.6%	\$104,600	0	1
2. TV Guide	25.4	95,900	0	5
3. Family Circle	20.8	75,280	0	1
4. Good Housekeeping	20.8	80,025	0	1
5. Better Homes & Gardens	20.4	95,400	0	1
6. Woman's Day	19.4	66,960	0	1
7. McCall's	16.8	60,800	0	1
8. People	15.2	61,345	0	5
9. Ladies Home Journal	14.7	61,300	0	1
10. National Geographic	12.9	117,715	0	1
11. Time	10.9	114,955	0	5
12. Redbook	10.2	55,255	0	1

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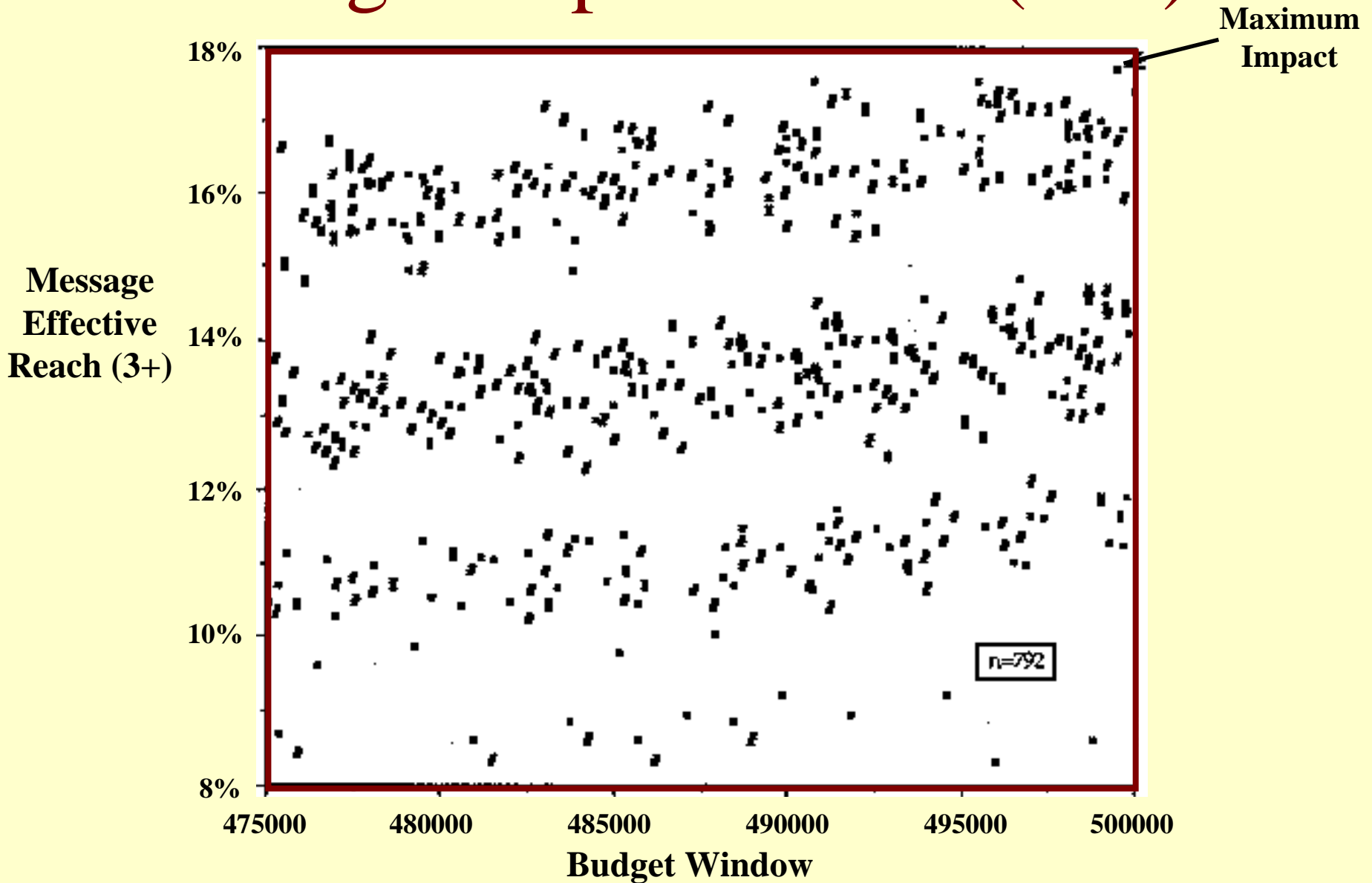
# Optimization Problem

Identify the plan that delivers maximum Reach (3+) for \$500,000.

# Impact Profile

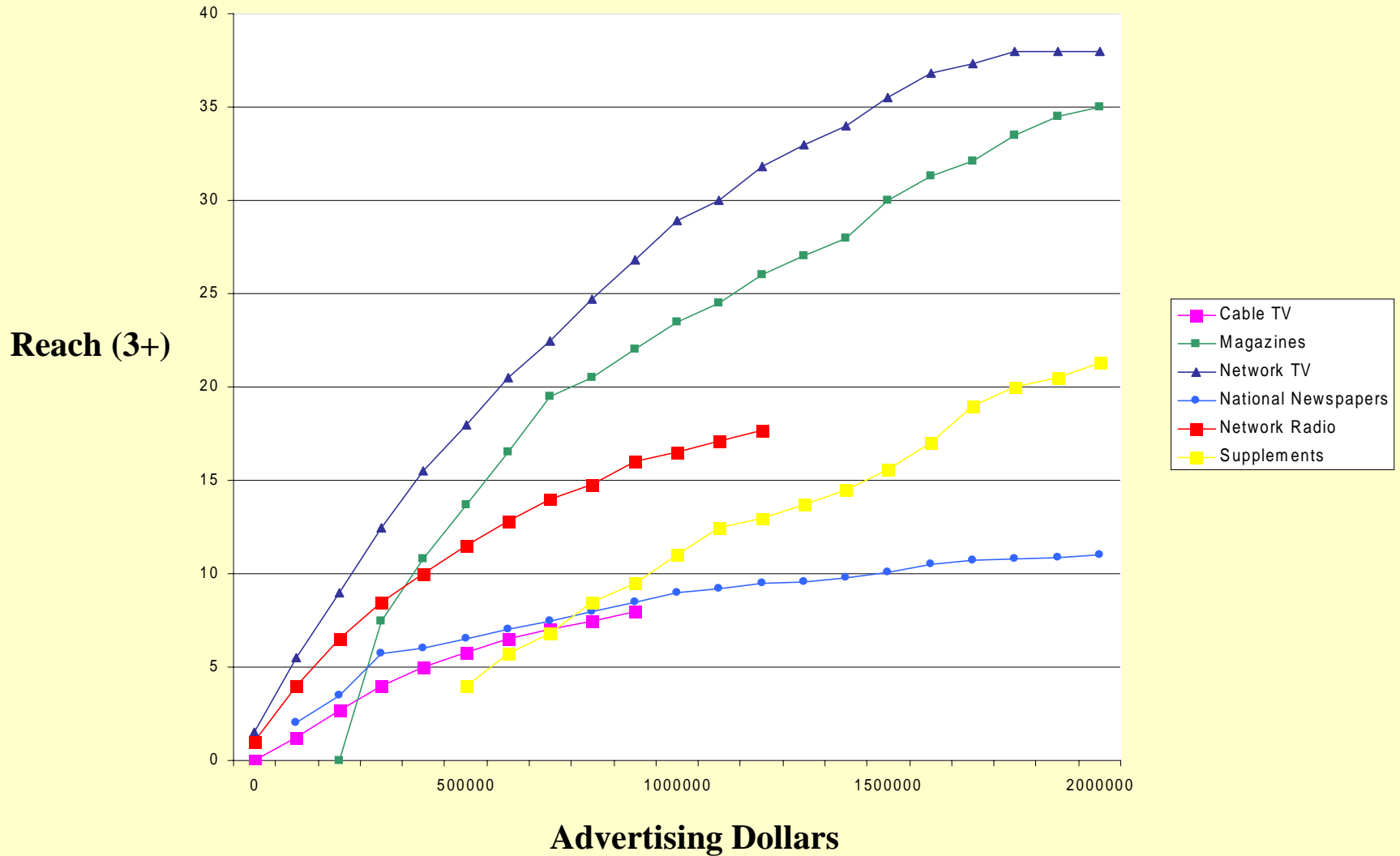


# Budget Impact Profile (BIP)



# Optimum Reach (3+)

## For 6 Media Categories



# Optimum Reach (3+)

## For 6 Media Categories and 4 Combinations

