

Executive Summary

SALS Marketing Inc. was tasked with designing an advertising campaign that maximizes exposure while staying within the client's \$800,000 budget. Each advertising channel—Magazines, Newspapers, Television, and Radio—offered distinct cost and exposure trade-offs. Additional constraints required spending between \$100,000 and \$300,000 in each category and purchasing only whole units of advertisements.

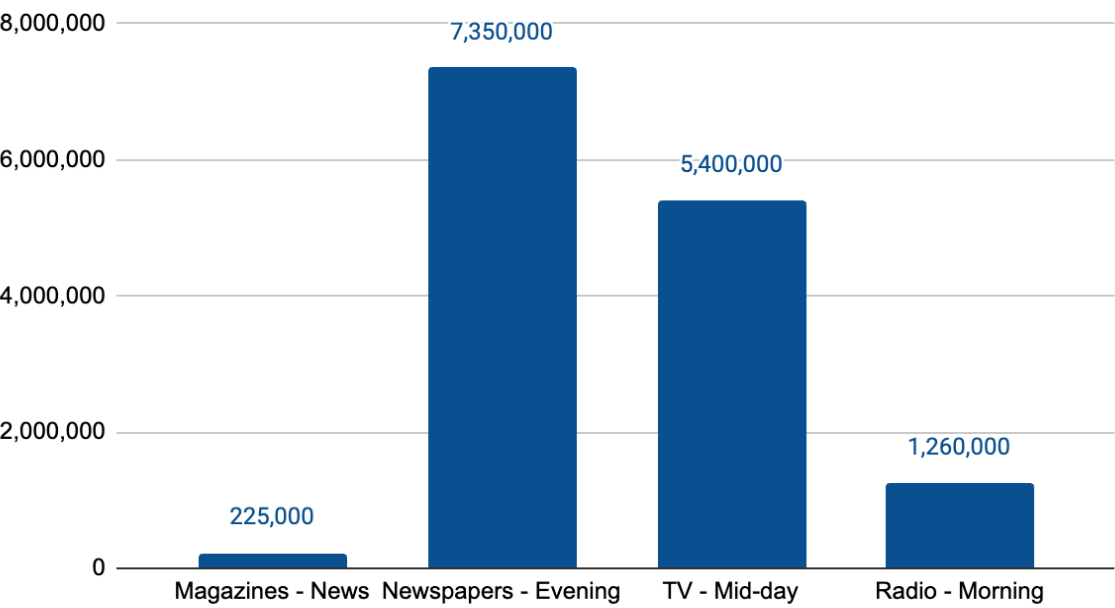
Using a mixed-integer linear programming model implemented in CVXPY, we identified the optimal media mix that maximizes total exposure while satisfying all business constraints.

Campaign Highlights:

- **Total Exposure Achieved: 14,235,000 impressions**
- **Total Cost: \$799,000** (within the \$800K budget) (see chart for budget allocation)
- **Optimal Media Mix:**
 - **Magazines – News:** 10 units
 - **Newspapers – Evening:** 98 units
 - **Television – Mid-Day:** 30 units
 - **Radio – Morning:** 7 units

This allocation delivers the highest possible exposure while adhering strictly to the budget and diversity requirements across media categories.

Media Exposure Contribution



Percentage of Budge Allocation

