SETS

I canning plants / SEATTLE, SAN-DIEGO /

J markets / NEW-YORK, CHICAGO, TOPEKA / ;

PARAMETERS

A(I) capacity of plant i in cases

/ SEATTLE 350

SAN-DIEGO 600 /

B(J) demand at market j in cases

/ NEW-YORK 325

CHICAGO 300

TOPEKA 275 / ;

TABLE D(I,J) distance in thousands of miles

NEW-YORK CHICAGO TOPEKA

SEATTLE 2.5 1.7 1.8

SAN-DIEGO 2.5 1.8 1.4 ;

SCALAR F freight in dollars per case per thousand miles /90/ ;

PARAMETER C(I,J) transport cost in thousands of dollars per case ;

C(I,J) = F \* D(I,J) / 1000 ;

VARIABLES

X(I,J) shipment quantities in cases

Z total transportation costs in thousands of dollars ;

POSITIVE VARIABLE X ;

EQUATIONS

COST define objective function

SUPPLY(I) observe supply limit at plant i

DEMAND(J) satisfy demand at market j ;

COST .. Z =E= SUM((I,J), C(I,J)\*X(I,J)) ;

SUPPLY(I) .. SUM(J, X(I,J)) =L= A(I) ;

DEMAND(J) .. SUM(I, X(I,J)) =G= B(J) ;

MODEL TRANSPORT /ALL/ ;

SOLVE TRANSPORT USING LP MINIMIZING Z ;