METRO

LOS ANGELES COUNTY METROPOLITAN TRANSPORTATION AUTHORITY

TDM PHASE II PROGRAM PART III-A TECHNICAL APPENDIX MOBILITY IMPACTS

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TRANSPORTATION MODEL
LACMTA

TDM/TCM EVALUATION
1990 BASELINE TRAVEL CHARACTERISTICS FOR LOS ANGELES COUNTY

#		
1	AVR FOR TOTAL PERSON	1.438
2	AVR FOR H−W TRIPS	1.225
3	AVR FOR COMMUTE TRIPS	1.193
4	AVR FOR NON−COMMUTE TRIPS	1.56
5	AVO (EXCLUDING TRANSIT)	
6	AVR FOR H−W TRIPS	1.122
7	AVR FOR COMMUTE TRIPS	1.117
8	AVR FOR NON−COMMUTE TRIPS	1.521
9	TOTAL PERSON TRIPS	29,582,281
10	TOTAL COMMUTE PERSON TRIPS	7,940,220
11	TOTAL COMMUTE VEHICLE TRIPS	6,655,681
12	TOTAL NON−COMMUTE VEHICLE TRIPS	13,909,441
13	TOTAL PEAK PERIOD VMT	69,449,075
14	TOTAL OFF−PEAK PERIOD VMT	97,613,559
15	DRIVE ALONE SHARE OF COMMUTE PERSON TRIPS	74.20%
16	PERCENT OF ALL TRIPS IN PEAK PERIOD	40.00%
17	PERCENT OF ALL TRIPS THAT ARE COMMUTE TRIPS	32.40%
18	PERCENT OF ALL TRIPS THAT ARE NON−COMMUTE TRIPS	67.60%
19	PERCENT OF COMMUTE TRIPS IN PEAK PERIOD	62.50%
20	PERCENT OF NON−COMMUTE TRIPS IN PEAK PERIOD	37.50%
21	PERCENT OF PEAK TRIPS THAT ARE COMMUTE TRIPS	52.00%
22	PERCENT OF OFF−PEAK TRIPS THAT ARE COMMUTE TRIPS	22.00%
23	AVERAGE COMMUTE TRIP LENGTH (BASED ON H−W)	11.40
24	AVERAGE NON−COMMUTE TRIP LENGTH	6
25	TOTAL PERSON TRIPS THAT ARE TRANSIT	996,823
26	PERCENT OF ALL TRIPS THAT ARE TRANSIT	3.40%
27	TOTAL COMMUTE PERSON TRIPS THAT ARE TRANSIT	506,200
28	TOTAL NON−COMMUTE TRIPS THAT ARE TRANSIT	490,623
29	COMMUTE TRIP SHARE OF TRANSIT	50.00%
30	TOTAL TRANSIT VEHICLE MILES	241,747
31	PERCENT OF COMMUTE TRIPS LESS THAN 6 MILES	44.00%
32	PERCENT OF COMMUTE TRIPS TRIPS LESS THAN 5 MILES	37.00%
33	PERCENT OF COMMUTE TRIPS TRIPS LESS THAN 3 MILES	19.00%
34	PERCENT OF ALL PERSON TRIPS THAT ARE LESS THAN 6 MILES	64.00%
35	PERCENT OF ALL PERSON TRIPS THAT ARE LESS THAN 5 MILES	56.00%
36	PERCENT OF ALL PERSON TRIPS THAT ARE LESS THAN 3 MILES	31.00%
37	AVERAGE COMMUTE TRIP LENGTH	10.74
38	AVERAGE DAILY COMMUTE OUT−OF−POCKET COST PER VEHICLE	$10.00
39	AVERAGE COST OF GAS PER GALLON	$1.44
40	AVERAGE COST PER MILE TO DRIVE	$0.48
41	AVERAGE COMMUTE OUT−OF−POCKET COST PER VEHICLE PER TRIP	$5.00
42	AVERAGE NON−COMMUTE OUT−OF−POCKET COST PER VEHICLE PER TRIP	$1.00
43	PERCENT OF VMT ON FREEWAYS	50%
44	AVERAGE TRIP LENGTH FOR TRUCKS	10.70
45	ELASTICITY OF PARKING DEMAND WITH RESPECT TO COST OF COMMUTE TRIP	TBD
46	ELASTICITY OF AUTO USE WITH RESPECT TO COST OF GASOLINE	TBD
47	ELASTICITY OF AUTO USE WITH RESPECT TO AUTO OPERATING COST	TBD

DATA USED FOR TDM/TCM QUANTIFICATIONS

A TECHNICAL ANALYSIS HAS BEEN PERFORMED AT THREE U.S. CITIES
(FRESNO, MIAMI AND BOSTON) TO DETERMINE SHIFTS
BETWEEN MODES. SOME OF THE FINDINGS ARE PRESENTED HERE:

SWITCH TO BUS	PERCENT
1) ECONOMY	33.00%
2) CONVENIENCE	32.00%
3) OTHER MODES UNAVAILABLE	27.00%
4) DRIVER STRAIN	13.00%
5) ECOLOGY	10.00%
6) GOOD SCHEDULE	7.00%
7) SAVE TIME	6.00%
8) BETTER IN RAIN/SNOW	5.00%
9) SAFETY	4.00%

SWITCH FROM BUS	PERCENT
1) PREFER AUTO MODE	20.00%
2) CONVENIENCE	19.00%
3) POOR BUS SERVICE	12.00%
4) NEED CAR	5.00%
5) ECONOMY	5.00%
6) COMFORT	5.00%
7) SAVE TIME	14.00%
8) LESS EXPOSURE TO WEATHER	1.00%
9) SAFETY	3.00%

ALL TCMs WILL BE IMPLEMENTED IN SELECTED AREAS IN THE COUNTY ACCORDING TO THE FOLLOWING CRITERION:

1) PRESENT TRANSIT ACCESSIBILITY
2) PARKING AVAILABILITY
3) MODE SPLIT
4) INCOME LEVEL
5) ETHNICITY
6) EMPLOYMENT AND POPULATION DENSITY

CASE STUDIES (TRANSIT SERVICE EXPANSION)

1) AVERAGE BIG CITY NET REDUCTION IN DAILY TRIPS
FROM BUS SERVICE EXPANSION IS 0.1% TO 0.18% (TCMID)

2) AVERAGE BIG CITY NET REDUCTION IN DAILY TRIPS
FROM BUS AND RAIL EXPANSION IS 2.46% (HARVEY AND DEAKIN)

3) CASE STUDIES FROM SAN FRANCISCO SHOW AN
ELASTICITY OF 0.3-0.6 FOR BOTH HEADWAY DECREASE AND
SERVICE EXPANSION (TRAVEL RESPONSE TO TRANSPORTATION SYSTEM
CHANGES BY BARTON-ASCHMAN ASSOCIATES, INC.)

4) HEADWAY AND SERVICE INCREASE ELASTICITIES RANGING
FROM 0.1 TO 0.7. FOR DIFFERENT SERVICES IN BOSTON AND OTHER MAJOR
U.S. CITIES (TRAVEL RESPONSE TO TRANSPORTATION SYSTEM
CHANGES BY BARTON—ASCHMAN ASSOCIATES, INC.)

5) BASED ON CASE STUDIES IN SEATTLE, WA; MIAMI,FL;
PORTLAND, OR; AND SAN DIEGO, CA THE ELASTICITY OF TRANSIT USE
WITH RESPECT TO SERVICE RANGES FROM 0.3 TO 0.75
SOURCE OF NEW RIDERSHIP FOR TRANSIT

BASED ON EXPERIENCE WITH MAJOR U.S. CITIES THE FOLLOWING SUMMARIZES
THE SOURCES OF NEW RIDERSHIP:

MODE	PERCENT
DRIVE ALONE	50.00%
CARPOOL/VANPOOL	20.00%
TRANSIT	12.00%
TAXI	2.00%
WALKING	9.00%
BICYCLING	7.00%

THE HIGH END OF ELASTICITIES IN ALL CASES WERE VALIDATED THEORETICALLY
USING MULTINOMIAL LOGIT MODELS. IN THIS MODEL, IT IS
ASSUMED THAT EACH ALTERNATIVE PRESENTED TO AN INDIVIDUAL
CAN BE REPRESENTED BY A SINGLE NUMBER (Ui(s)) WHERE THE SUBSCRIPT (i)
IS A LABEL IDENTIFYING THE ALTERNATIVE, AND THE (S) INDICATES
THAT THE VALUE (Ui) MAY VARY FROM INDIVIDUAL TO INDIVIDUAL.
THE (Ui) ARE FURTHER ASSUMED TO BE LINEAR FUNCTIONS OF THE DESCRIPTOR
OF THE ALTERNATIVES. THE PROBABILITY THAT ALTERNATIVE (i) WILL BE CHOSEN
IS GIVEN BY

$$Pm = EXP(Um)/SUM(EXP(Ui))$$

WHERE (Pm) IS THE PROBABILITY OF CHOOSING MODE (m)
(Um) IS THE TRAVELLER'S UTILITY OF MODE (m)
(i) REPRESENT THE SET OF AVAILABLE MODES;
(i) = (a) FOR DRIVE ALONE
    (s) SHARED RIDE
    (t) TRANSIT

THE MULTINOMIAL LOGIT MODEL DIFFERS BY TRIP PURPOSE
i.e. (HOME—BASED WORK MODE CHOICE MODEL, HOME—BASE SHOP, ETC...)
THE UTILITY COFFICIENT USED ARE FOUND IN U.S. DEPARTMENT OF
TRANSPORTATION MODE CHOICE MODEL REPORT AND ALSO FROM
TRACKING SOUTHERN CALIFORNIA'S AIR POLLUTION AND CONGESTION BY
ENVIRONMENTAL DEFENSE FUND(EDF 1991)

CHARACTERISTICS OF USAGE OF FRINGE PARKING FACILITIES FOR BUS SERVICE
BASED ON ACTUAL DATA FROM MILWAUKEE, SEATTLE, VANCOUVER AND MIAMI

PRIOR MODE	PERCENT
AUTO DRIVER	42.00%
AUTO PASSENGER	12.00%
WALK TO TRANSIT OR TO PARK/RIDE	44.00%
OTHER	2.00%

ACCESS MODE	PERCENT
AUTO DRIVER	30.00%
AUTO PASSENGER AND KISS/RIDE	42.00%
WALK	17.00%
TRANSIT/OTHER	9.00%

TRANSPORTATION MODEL

LACMTA

ACCESS DISTANCE	PERCENT
WITHIN 2 MILES	56.00%
WITHIN 5 MILES	88.00%

PARKED AUTO OCCUPANCY	1.2

THE FOLLOWING TABLE GIVES A DISTRIBUTION OF EMPLOYERS BY SIZE.
THE SOURCE OF THIS DATA IS FROM A LIST WHICH HAS MATCHED
DUN & BRADSTREET, AND AMERICAN BUSINESS LISTS COMPANY FILES

EMPLOYER SIZE	TOTAL EMPLOYEES (PERCENT)
LESS THAN 25	1,623,093
	38.20%
25-49	410,945
	9.70%
50 TO 74	273,975
	6.40%
75 TO 99	147,355
	3.50%
100 OR MORE	1,796,006
	42.20%
TOTAL EMPLOYEES IN LA COUNTY	4,251,374
	100.00%

THE FOLLOWING TABLE GIVES A DISTRIBUTION OF COMMUTE
TRIPS BY DISTANCE. THIS DATA WAS MANIPULATED BASED ON CMP MODEL

FOR HOME TO WORK TRIPS

ONE WAY MILES	PERCENT OF TRIPS
1 TO 3	18.80%
4 TO 5	18.00%
6 TO 10	27.37%
11 TO 15	13.63%
16 TO 20	7.91%
21 OR MORE	14.31%

PERCENT INCREASE (DECREASE) IN MODE SPLIT BETWEEN YEAR 1 AND 3 BASED
ON REGULATION XV DATA

MODE	PERCENT
DRIVE ALONE MODE	−10.40%
MOTORCYCLE	−0.21%
2−PERSON CARPOOL	6.56%
3−PERSON CARPOOL	1.93%
VANPOOL	1.32%
BUSPOOL	NA
TRANSIT	1.26%
WALK	−0.37%
BICYCLE	0.17%
TELECOMMUTING	0.09%
4/40 CWWS	4.67%
9/80 CWWS	0.35%

THE MAJORITY OF EMPLOYER SPONSORED VANPOOL PROGRAMS SERVE
LESS THAN 5% OF THE COMPANY WORKFORCE, TYPICALLY 1% TO 2%.THE ONE
WAY COMMUTE LENGTH WILL BE ASSUMED TO EQUAL OR EXCEED 11 MILES.
35% OF HOME−TO−WORK COMMUTE TRIPS ARE 11 MILES OR MORE.
VANPOOLING PROGRAMS IS MORE SUCCESSFUL AT LARGER SITES.
52% OF EMPLOYEES WORK AT ESTABLISHMENTS OVER 50 EMPLOYEES.

I) RIDESHARING OPERATION

TCM # 1 TRIP REDUCTION PROGRAM FOR EMPLOYERS
WITH 25−99 EMPLOYEES

DESCRIPTION OF MEASURE

FORMAL TRIP REDUCTION PROGRAM FOR SMALL EMPLOYERS
INCLUDING MARKETING AND PROMOTIONAL INCENTIVES
FOR COMMUTERS WORKING FOR EMPLOYERS WITH
25−99 EMPLOYEES

ASSUMPTIONS

BASELINE AVERAGE VEHICLE RIDERSHIP (AVR)	1.19
EXPECTED AVERAGE VEHICLE RIDERSHIP (AVR) (STANDARD)	1.22
EXPECTED AVERAGE VEHICLE RIDERSHIP (HIGH)	1.25
PERCENT INCREASE IN AVR (STANDARD)	2.52%
PERCENT INCREASE IN AVR (HIGH)	5.04%
PERCENT OF EMPLOYEES AFFECTED	20.00%
PERCENT OF TRIPS REDUCED AFTER PARK−AND−RIDE TRAVEL	70.00%

METHODOLOGY

TOTAL VEHICLE TRIPS REDUCED IS A FUNCTION OF:

TOTAL BASELINE COMMUTE VEHICLE TRIPS (TBCVT);
BASELINE AVERAGE VEHICLE RIDERSHIP (BAVR)
EXPECTED AVERAGE VEHICLE RIDERSHIP (EAVR)
PERCENT OF NEW RIDERS THAT ARE SOV USERS (PNR)
PERCENT OF TRIPS REDUCED AFTER PARK−AND RIDE TRAVEL (PTRAPNRT) AND
PERCENT OF EMPLOYEES AFFECTED (PEA)

$$TVTR = (TBCVT) \times [\{((PEA) / (BAVR)) - \\ - ((PEA) / (EAVR))\} \times (PNR) \times (PTRAPNRT)]$$

TOTAL PEAK VEHICLE TRIPS REDUCED (TPVTR) IS A FUNCTION OF:

TOTAL VEHICLE TRIPS REDUCED (TVTR);
PERCENT OF COMMUTE TRIPS IN PEAK (PCPT);

$$TPVTR = (TVTR) \times (PCPT))$$

TOTAL OFF−PEAK VEHICLE TRIPS REDUCED (TOPVTR) IS A FUNCTION OF:

TOTAL VEHICLE TRIPS REDUCED (TVTR) AND
TOTAL PEAK VEHICLE TRIPS REDUCED (TPVTR)

$$TOPVTR = (TVTR) - (TPVTR)$$

TOTAL PEAK VEHICLE MILES TRAVELED REDUCED (TPVMTR)
IS A FUNCTION OF:
TOTAL PEAK VEHICLE TRIPS REDUCED (TPVTR);
AVERAGE COMMUTE TRIP LENGTH (ACTL);
VEHICLE MILES REDUCED AFTER PARK–AND RIDE TRAVEL (PNRVMTR);
PERCENT OF TRIPS LOST AFTER PARK–AND–RIDE TRAVEL (PTLAPNRT)
WHICH IS (1–PTRAPNRT) AND
AVERAGE TRIP LENGTH SAVED AFTER PARK–AND–RIDE TRAVEL (ATLSAPNRT)
WHICH IS 2/3 OF AVERAGE TRIP LENGTH

TPVMTR = (TPVTR) X (ACTL) + + ((PTLAPNRT) X (ATLSAPNRT)) X (TPVTR)

TOTAL OFF–PEAK VEHICLE MILES TRAVELED REDUCED (TOPVMTR)
IS A FUNCTION OF:

TOTAL OFF–PEAK VEHICLE TRIPS REDUCED (TOPVTR);
AVERAGE COMMUTE TRIP LENGTH (ACTL);
VEHICLE MILES REDUCED AFTER PARK–AND RIDE TRAVEL (PNRVMTR);
PERCENT OF TRIPS LOST AFTER PARK–AND–RIDE TRAVEL (PTLAPNRT)
WHICH IS (1–PTRAPNRT) AND
AVERAGE TRIP LENGTH SAVED AFTER PARK–AND–RIDE TRAVEL (ATLSAPNRT)
WHICH IS 2/3 OF AVERAGE TRIP LENGTH

TOPVMTR = (TOPVTR) X (ACTL) + + ((PTLAPNRT) X (ATLSAPNRT)) X (TOPVTR)

TOTAL VEHICLE MILES TRAVELED REDUCED (TVMTR)
IS A FUNCTION OF:

TOTAL PEAK VEHICLE MILES TRAVELED REDUCED (TPVMTR) AND
TOTAL OFF–PEAK VEHICLE MILES TRAVELED REDUCED (TOPVMTR)

TVMTTR = (TPVMTR) + (TOPVMTR)

LIKELY OUTCOMES

TRIP REDUCTIONS	
TOTAL VEHICLE TRIPS REDUCED (STANDARD)	17,044
TOTAL VEHICLE TRIPS REDUCED (HIGH)	33,270
TOTAL PEAK VEHICLE TRIPS REDUCED (STANDARD)	10,653
TOTAL PEAK VEHICLE TRIPS REDUCED (HIGH)	20,794
TOTAL OFF–PEAK VEHICLE TRIPS REDUCED (STANDARD)	6,392
TOTAL OFF–PEAK VEHICLE TRIPS REDUCED (HIGH)	12,476
VMT REDUCTIONS	
TOTAL REDUCTIONS IN PEAK VMT (STANDARD)	145,729
TOTAL REDUCTIONS IN PEAK VMT (HIGH)	284,462
TOTAL REDUCTIONS IN OFF–PEAK VMT (STANDARD)	87,437
TOTAL REDUCTIONS IN OFF–PEAK VMT (HIGH)	170,677
REDUCTIONS IN TOTAL VMT (STANDARD)	233,166
REDUCTIONS IN TOTAL VMT (HIGH)	455,140

TCM #2 EMPLOYER BASED ALTERNATIVE WORK SCHEDULES

DESCRIPTION OF MEASURE

WITH A COMPRESSED WORK WEEK, AN EMPLOYEE WORKS MORE
HOURS PER DAY AND FEWER DAYS PER WEEK AS COMPARED TO A NORMAL WORK SCHEDULE.
THE MOST COMMON FORMS OF COMPRESSED WORK WEEK ARE THE
4/40 CWW AND THE 9/80 CWW.

ASSUMPTIONS

EMPLOYEE PARTICIPATION RATE (STANDARD)	0.02
EMPLOYEE PARTICIPATION RATE (HIGH)	0.04
NUMBER OF DAYS PER WEEK EMPLOYEES PARTICIPATE	0.8
TRIPS PER DAY CONVERSION FACTOR	0.16
PERCENT OF TRIPS REDUCED AFTER NON−COMMUTE TRIPS INCREASE	0.9
PERCENT OF EMPLOYEES AFFECTED	20.00%

METHODOLOGY

TOTAL VEHICLE TRIPS REDUCED (TVTR) IS A FUNCTION OF;
TOTAL BASELINE COMMUTE VEHICLE TRIPS (TBCVT)
EMPLOYEE PARTICIPATION RATE (EPR);
PERCENT OF EMPLOYEES AFFECTED (PEA);
PERCENT OF DAYS PER WEEK PARTICIPANTS DO NOT COMMUTE (PODPWPDC);
PERCENT OF TRIPS REDUCED AFTER NON−COMMUTE TRIPS INCREASE (PTRANCTI)
TRIPS PER DAY CONVERSION FACTOR (TPDCF)

$$TVTR = (TBCVT) \times (EPR) \times (PEA) \times$$
$$\times (PODPWPDC) \times (PTRANCTI) \times (TPDCF)$$

TOTAL PEAK VEHICLE TRIPS REDUCED (TPVTR) IS A FUNCTION OF:
TOTAL VEHICLE TRIPS REDUCED (TVTR);
PERCENT OF COMMUTE TRIPS IN PEAK (PCPT);

$$TPVTR = (TVTR) \times (PCPT))$$

TOTAL OFF−PEAK VEHICLE TRIPS REDUCED (TOPVTR) IS A FUNCTION OF:
TOTAL VEHICLE TRIPS REDUCED (TVTR) AND
TOTAL PEAK VEHICLE TRIPS REDUCED (TPVTR)

$$TOPVTR = (TVTR) - (TPVTR)$$

TOTAL PEAK VEHICLE MILES TRAVELED REDUCED (TPVMTR)
IS A FUNCTION OF:
TOTAL PEAK VEHICLE TRIPS REDUCED (TPVTR);
AVERAGE COMMUTE TRIP LENGTH (ACTL);
VEHICLE MILES REDUCED AFTER NON−COMMUTE TRIPS VEHICLE MILES INCREASE;
PERCENT OF TRIPS ATTRIBUTED TO NON−COMMUTE TRIPS INCREASE (PTATNCTI)
AVERAGE TRIP LENGTH TO BE CREDITED AFTER NON−COMMUTE TRIP INCREASE

$$TPVMTR = (TPVTR) \times (ACTL) +$$
$$+ ((PTATNCTI) \times (ATLTBCANCTI)) \times (TPVTR)$$

TOTAL OFF–PEAK VEHICLE MILES TRAVELED REDUCED (TOPVMTR)
IS A FUNCTION OF:

TOTAL OFF–PEAK VEHICLE TRIPS REDUCED (TOPVTR);
AVERAGE COMMUTE TRIP LENGTH (ACTL);
VEHICLE MILES REDUCED AFTER NON–COMMUTE TRIPS VEHICLE MILES INCREASE;
PERCENT OF TRIPS ATTRIBUTED TO NON–COMMUTE TRIPS INCREASE (PTATNCTI)
AVERAGE TRIP LENGTH AFTER SATELLITE WORK CENTER TRAVEL (ATLASWCT)

TOPVMTR = (TOPVTR) X (ACTL) +
+ ((PTATNCTI) X (ATLASWCT)) X (TOPVTR)

TOTAL VEHICLE MILES TRAVELED REDUCED (TVMTR)
IS A FUNCTION OF:

TOTAL PEAK VEHICLE MILES TRAVELED REDUCED (TPVMTR) AND
TOTAL OFF–PEAK VEHICLE MILES TRAVELED REDUCED (TOPVMTR)

TVMTTR = (TPVMTR) + (TOPVMTR)

LIKELY OUTCOMES

TRIP REDUCTIONS	
TOTAL VEHICLE TRIPS REDUCED (STANDARD)	3,067
TOTAL VEHICLE TRIPS REDUCED (HIGH)	6,134
TOTAL PEAK VEHICLE TRIPS REDUCED (STANDARD)	1,917
TOTAL PEAK VEHICLE TRIPS REDUCED (HIGH)	3,834
TOTAL OFF–PEAK VEHICLE TRIPS REDUCED (STANDARD)	1,150
TOTAL OFF–PEAK VEHICLE TRIPS REDUCED (HIGH)	2,300
VMT REDUCTIONS	
TOTAL REDUCTIONS IN PEAK VMT (STANDARD)	21,852
TOTAL REDUCTIONS IN PEAK VMT (HIGH)	43,704
TOTAL REDUCTIONS IN OFF–PEAK VMT (STANDARD)	13,111
TOTAL REDUCTIONS IN OFF–PEAK VMT (HIGH)	26,222
REDUCTIONS IN TOTAL VMT (STANDARD)	34,963
REDUCTIONS IN TOTAL VMT (HIGH)	69,926

TCM #3 EMPLOYER—BASED TELECOMMUTING PROGRAM

DESCRIPTION OF MEASURE

EMPLOYEES WHO TELECOMMUTE PERFORM THEIR WORK DUTIES
FOR PART OR ALL OF THE WEEK AT HOME OR AT
A SATELLITE WORK CENTER. THROUGH TELECOMMUTING, THE COMMUTE
TRIP IS ELIMINATED OR DRASTICALLY REDUCED IN LENGTH, LEADING
TO BOTH CONGESTION AND AIR QUALITY BENEFITS.

ASSUMPTIONS

EMPLOYEE PARTICIPATION RATE (STANDARD)	1.00%
EMPLOYEE PARTICIPATION RATE (HIGH)	2.00%
PERCENT OF EMPLOYEES AFFECTED	20.00%
PERCENT REDUCTION DUE TO NON—COMMUTE TRIP INCREASES	90.00%
DAYS PER WEEK PARTICIPANTS TELECOMMUTED	1.00
CONVERSION TO TRIPS PER DAY FACTOR	20.00%
VMT REDUCTIONS AFTER VMT GENERATED WHILE COMMUTING TO SWC	75.00%

METHODOLOGY

TOTAL VEHICLE TRIPS REDUCED (TVTR) IS A FUNCTION OF;
TOTAL BASELINE COMMUTE VEHICL TRIPS (TBCVT)
EMPLOYEE PARTICIPATION RATE (EPR);
PERCENT OF EMPLOYEES AFFECTED (PEA);
PERCENT OF DAYS PER WEEK PARTICIPANTS TELECOMMUTED
PERCENT OF TRIPS REDUCED AFTER NON—COMMUTE TRIPS INCREASE (PTRANCTI)
TRIPS PER DAY CONVERSION FACTOR (TPDCF)

TVTR = (TBCVT) X (EPR) X (PEA) X (PODPWPT) X (PTRANCTI) X (TPDCF)

TOTAL PEAK VEHICLE TRIPS REDUCED (TPVTR) IS A FUNCTION OF:
TOTAL VEHICLE TRIPS REDUCED (TVTR);
PERCENT OF COMMUTE TRIPS IN PEAK (PCPT);

TPVTR = (TVTR) X (PCPT))

TOTAL OFF—PEAK VEHICLE TRIPS REDUCED (TOPVTR) IS A FUNCTION OF:
TOTAL VEHICLE TRIPS REDUCED (TVTR) AND
TOTAL PEAK VEHICLE TRIPS REDUCED (TPVTR)

TOPVTR = (TVTR) — (TPVTR)

TOTAL PEAK VEHICLE MILES TRAVELED REDUCED (TPVMTR)
IS A FUNCTION OF:
TOTAL PEAK VEHICLE TRIPS REDUCED (TPVTR);
AVERAGE COMMUTE TRIP LENGTH (ACTL);
VEHICLE MILES REDUCED AFTER NON—COMMUTE TRIPS VEHICLE MILES INCREASE;
PERCENT OF TRIPS INCREASED DUE TO NON—COMMUTE TRIPS GENERATED (PTIDTNCTG)
AVERAGE TRIP LENGTH TO BE CREDITED AFTER NON—COMMUTE TRIPS INCREASE (ATLTCANCTI)

TPVMTR = (TPVTR) X (ACTL) +
+ ((PTIDTNCTG) X (ATLTCANCTI)) X (TPVTR)

TOTAL OFF-PEAK VEHICLE MILES TRAVELED REDUCED (TOPVMTR)
IS A FUNCTION OF:

TOTAL OFF-PEAK VEHICLE TRIPS REDUCED (TOPVTR);
AVERAGE COMMUTE TRIP LENGTH (ACTL);
VEHICLE MILES REDUCED AFTER NON-COMMUTE TRIPS VEHICLE MILES INCREASE;
PERCENT OF TRIPS INCREASED DUE TO NON-COMMUTE TRIPS GENERATED (PTIDTNCTG)
AVERAGE TRIP LENGTH TO BE CREDITED AFTER NON-COMMUTE TRIPS INCREASE (ATLTCANCTI)

$$\text{TOPVMTR} = (\text{TOPVTR}) \times (\text{ACTL}) + $$
$$+ ((\text{PTIDTNCTG}) \times (\text{ATLTCANCTI})) \times (\text{TOPVTR})$$

TOTAL VEHICLE MILES TRAVELED REDUCED (TVMTR)
IS A FUNCTION OF:

TOTAL PEAK VEHICLE MILES TRAVELED REDUCED (TPVMTR) AND
TOTAL OFF-PEAK VEHICLE MILES TRAVELED REDUCED (TOPVMTR)

$$\text{TVMTTR} = (\text{TPVMTR}) + (\text{TOPVMTR})$$

LIKELY OUTCOMES

TRIP REDUCTIONS	
TOTAL VEHICLE TRIPS REDUCED (STANDARD)	1,778
TOTAL VEHICLE TRIPS REDUCED (HIGH)	3,556
TOTAL PEAK VEHICLE TRIPS REDUCED (STANDARD)	1,111
TOTAL PEAK VEHICLE TRIPS REDUCED (HIGH)	2,222
TOTAL OFF-PEAK VEHICLE TRIPS REDUCED (STANDARD)	667
TOTAL OFF-PEAK VEHICLE TRIPS REDUCED (HIGH)	1,333
VMT REDUCTIONS	
TOTAL REDUCTIONS IN PEAK VMT (STANDARD)	9,500
TOTAL REDUCTIONS IN PEAK VMT (HIGH)	19,001
TOTAL REDUCTIONS IN OFF-PEAK VMT (STANDARD)	5,700
TOTAL REDUCTIONS IN OFF-PEAK VMT (HIGH)	11,401
REDUCTIONS IN TOTAL VMT (STANDARD)	15,201
REDUCTIONS IN TOTAL VMT (HIGH)	30,402

TCM#4 EMPLOYER-BASED STAGGERED AND FLEXIBLE WORK HOURS

DESCRIPTION OF MEASURE

EMPLOYEES ARE ASSIGNED OR SELECT ARRIVAL AND DEPARTURE TIMES AT WORK, OUTSIDE THE PEAK PERIODS
THIS STRATEGY DOES NOT AFFECT THE TOTAL TRIPS OR TOTAL VMT.
INSTEAD, IT SHIFTS THE TRIPS FROM PEAK TO OFF-PEAK PERIOD
EFFECTING THE SPEED WHICH IN TURN AFFECTS POSITIVELY CONGESTION AND AIR QUALITY

ASSUMPTIONS

THIS TCM DOES NOT AFFECT TOTAL TRIPS OR TOTAL VMT	
THIS TCM AFFECTS PEAK-PERIOD COMMUTE SPEED	
PERCENT OF EMPLOYEES AFFECTED	60.00%
PARTICIPATION RATE (STANDARD)	3.00%
PARTICIPATION RATE (HIGH)	5.00%
ELASTICITY OF PEAK PERIOD SPEED WITH RESPECT TO VOLUME	0.7
ELASTICITY OF OFF-PEAK PERIOD SPEED WITH RESPECT TO VOLUME	0.2

METHODOLOGY

TOTAL VEHICLE TRIPS REDUCED IS EQUAL TO ZERO

TOTAL VEHICLE TRIPS SHIFTED FROM PEAK (TVTSFP)
    IS A FUNCTION OF:
TOTAL BASELINE COMMUTE VEHICLE TRIPS (TBCVT) ;
PERCENT OF COMMUTE TRIPS IN PEAK PERIOD (PCPT);
PERCENT OF EMPLOYEES AFFECTED (PEA) AND
PARTICIPATION RATE (PR)

TVTSFP = (TBCVT) X (PCPT) X (PEA) X (PR)

TOTAL VEHICLE TRIPS SHIFTED TO OFF-PEAK PERIOD (TVTSTOP)
    IS EQUAL TO VEHICLE TRIPS SHIFTED FROM PEAK PERIOD

TVTSTOP = TVTSFP

TOTAL VEHICLE MILES TRAVELED SHIFTED FROM PEAK PERIOD (TVMTSFP)
    IS A FUNCTION OF:
TOTAL VEHICLE TRIPS SHIFTED FROM PEAK (TVTSFP)AND
AVERAGE COMMUTE TRIP LENGTH (ACTL)

TVMTSFP = (TVTSFP) X (ACTL)

IS EQUAL TO TOTAL VEHICLE MILES TRAVELED SHIFTED FROM PEAK (TVMTSFP)

TVMTSTOP = TVMTSFP

TOTAL VEHICLE MILES TRAVELED REDUCED IS ZERO
PERCENT CHANGE IN PEAK SPEEDS (PCIPS) IS A FUNCTION OF:
TOTAL PEAK VEHICLE MILES TRAVELED SHIFTED (TPVMTS);
TOTAL BASELINE PEAK VEHICLE MILES TRAVELED (TPBVMT) AND
ELASTICITY OF PEAK SPEED WITH RESPECT TO VOLUME (EOPSWRTV)

PCIPS = (TPVMTS) / (TPBVMT) X (EOPSWRTV)

PERCENT CHANGE IN OFF-PEAK SPEEDS (PCIOPS) IS A FUNCTION OF:

TOTAL OFF-PEAK VEHICLE MILES TRAVELED SHIFTED (TPVMTR);
TOTAL BASLINE OFF-PEAK VEHICLE MILES TRAVELED (TBOPVMT) AND
ELASTICITY OF OFF-PEAK SPEED WITH RESPECT TO VOLUME (EOOPSWRTV)

PCIOPS = (TOPVMTR) / (TOPBVMT) X (EOOPSWRTV)

LIKELY OUTCOMES

TRIP REDUCTIONS	
TOTAL VEHICLE TRIPS REDUCED (STANDARD)	0
TOTAL VEHICLE TRIPS REDUCED (HIGH)	0
TOTAL PEAK VEHICLE TRIPS SHIFTED (STANDARD)	74,876
TOTAL PEAK VEHICLE TRIPS SHIFTED (HIGH)	124,794
TOTAL OFF-PEAK VEHICLE TRIPS SHIFTED (STANDARD)	74,876
TOTAL OFF-PEAK VEHICLE TRIPS SHIFTED (HIGH)	124,794
TOTAL PEAK VEHICLE MILES SHIFTED (STANDARD)	853,591
TOTAL PEAK VEHICLE MILES TRAVELED SHIFTED (HIGH)	1,422,652
TOTAL OFF-PEAK VEHICLE MILES SHIFTED (STANDARD)	(853,591)
TOTAL OFF-PEAK VEHICLE MILES SHIFTED (HIGH)	(1,422,652)
VMT REDUCTIONS	
REDUCTIONS IN TOTAL VMT (STANDARD)	0
REDUCTIONS IN TOTAL VMT (HIGH)	0
PERCENT CHANGE IN PEAK SPEEDS (STANDARD)	0.86%
PERCENT CHANGE IN PEAK SPEEDS (HIGH)	1.43%
PERCENT CHANGE IN OFF-PEAK SPEEDS (STANDARD)	−0.17%
PERCENT CHANGE IN OFF-PEAK SPEEDS (HIGH)	−0.29%

TCM # 5 TRANSPORTATION MANAGEMENT ASSOCIATIONS

DESCRIPTION OF MEASURE

FORM NEW TMAs OR EXPAND THE REPRESENTATIONS OF THE PRESENT TMAs

ASSUMPTIONS

MAJOR EMPLOYERS NOT SERVED BY A TMA	1,500
NUMBER OF EMPLOYEES TO BE SERVED	300,000
EXPECTED PARTICIPATION RATE	60.00%
PERCENT OF NEW RIDESHARERS (STANDARD)	5.00%
PERCENT OF NEW RIDESHARERS (HIGH)	8.00%
TRIPS REDUCED AFTER CIRCULATION	75.00%
DRIVE ALONE MODE SHARE	74.20%
PERCENT OF EMPLOYEES AFFECTED	6.50%

METHODOLOGY

TOTAL VEHICLE TRIPS REDUCED (TVTR) IS A FUNCTION OF:
AN ESTIMATED INCREASE IN RIDER SHIP (ERI);
TOTAL COMMUTE BASELINE VEHICLE TRIPS (TCBVT);
PERCENT OF NEW RIDERS THAT ARE SOV USERS (PNR);
PERCENT OF TRIPS REDUCED AFTER PARK-AND RIDE TRAVEL (PTRAPNRT);
PERCENT OF EMPLOYEES AFFECTED (PEA) AND
EXPECTED PARTICIPATION RATE (EPR)

$$TVTR = (ERI) \times (TCBVT) \times (PNR) \times (PTRAPNRT) \times$$
$$\times (PEA) \times (EPR)$$

TOTAL PEAK VEHICLE TRIPS REDUCED (TPVTR) IS A FUNCTION OF:
TOTAL VEHICLE TRIPS REDUCED (TVTR);
PERCENT OF COMMUTE TRIPS IN PEAK (PCPT);

$$TPVTR = (TVTR) \times (PCPT))$$

TOTAL OFF-PEAK VEHICLE TRIPS REDUCED (TOPVTR) IS A FUNCTION OF:
TOTAL VEHICLE TRIPS REDUCED (TVTR) AND
TOTAL PEAK VEHICLE TRIPS REDUCED (TPVTR)

$$TOPVTR = (TVTR) - (TPVTR)$$

TOTAL PEAK VEHICLE MILES TRAVELED REDUCED (TPVMTR)
IS A FUNCTION OF:
TOTAL PEAK VEHICLE TRIPS REDUCED (TPVTR);
AVERAGE COMMUTE TRIP LENGTH (ACTL);
VEHICLE MILES REDUCED DUE TO PARK-AND RIDE TRAVEL (PNRVMTR);
PERCENT OF TRIPS LOST DUE TO PARK-AND-RIDE TRAVEL (PTLAPNRT)
WHICH IS (1-PTRAPNRT) AND
AVERAGE TRIP LENGTH SAVED AFTER PARK-AND-RIDE TRAVEL (ATLSAPNRT)
WHICH IS 2/3 OF AVERAGE TRIP LENGTH

$$TPVMTR = (TPVTR) \times (ACTL) +$$
$$+ (TPVTR) \times ((PTLAPNRT) \times (ATLSAPNRT))$$

TOTAL OFF-PEAK VEHICLE MILES TRAVELED REDUCED (TOPVMTR)
IS A FUNCTION OF:

TOTAL OFF-PEAK VEHICLE TRIPS REDUCED (TOPVTR);
AVERAGE COMMUTE TRIP LENGTH (ACTL);
VEHICLE MILES REDUCED AFTER PARK-AND RIDE TRAVEL (PNRVMTR);
PERCENT OF TRIPS LOST AFTER PARK-AND-RIDE TRAVEL (PTLAPNRT)
WHICH IS (1-PTRAPNRT) AND
AVERAGE TRIP LENGTH SAVED AFTER PARK-AND-RIDE TRAVEL (ATLSAPNRT)
WHICH IS 2/3 OF AVERAGE TRIP LENGTH

$$\text{TOPVMTR} = (\text{TOPVTR}) \times (\text{ACTL}) + \\ + (\text{TPVTR}) \times ((\text{PTLAPNRT}) \times (\text{ATLSAPNRT}))$$

TOTAL VEHICLE MILES TRAVELED REDUCED (TVMTR)
IS A FUNCTION OF:

TOTAL PEAK VEHICLE MILES TRAVELED REDUCED (TPVMTR) AND
TOTAL OFF-PEAK VEHICLE MILES TRAVELED REDUCED (TOPVMTR)

$$\text{TVMTTR} = (\text{TPVMTR}) + (\text{TOPVMTR})$$

LIKELY OUTCOMES

TRIP REDUCTIONS	
TOTAL VEHICLE TRIPS REDUCED (STANDARD)	15,104
TOTAL VEHICLE TRIPS REDUCED (HIGH)	24,166
TOTAL PEAK VEHICLE TRIPS REDUCED (STANDARD)	9,440
TOTAL PEAK VEHICLE TRIPS REDUCED (HIGH)	15,104
TOTAL OFF-PEAK VEHICLE TRIPS REDUCED (STANDARD)	5,664
TOTAL OFF-PEAK VEHICLE TRIPS REDUCED (HIGH)	9,062
TRIP REDUCTIONS	
TOTAL REDUCTIONS IN PEAK VMT (STANDARD)	125,371
TOTAL REDUCTIONS IN PEAK VMT (HIGH)	200,594
TOTAL REDUCTIONS IN OFF-PEAK VMT (STANDARD)	75,223
TOTAL REDUCTIONS IN OFF-PEAK VMT (HIGH)	120,356
REDUCTIONS IN TOTAL VMT (STANDARD)	200,594
REDUCTIONS IN TOTAL VMT (HIGH)	320,950

TCM # 6 COUNTY WIDE VANPOOL PROGRAM

DESCRIPTION OF MEASURE

VANPOOL PROGRAM PROMOTING AND PROVIDING
MATCHLIST FOR COMMUTERS TO VANPOOL

ASSUMPTIONS

PERCENT INCREASE IN THE NON-DRIVE ALONE MODE
WITH PROMOTING AND PROVIDING A MATCHLIST FOR
COMMUTERS TO VANPOOL IS ASSUMED TO BE 1% (STANDARD)
AND 3% (HIGH). THE HIGH END REFLECTS IMPLEMENTATION
OF OTHER MEASURES IN CONCERT WITH THIS MEASURE INCLUDING:
AN AGRESSIVE MARKETING STRATEGY, PARK-AND-RIDE LOTS TO
ACCOMODATE COMMUTERS AND A PARKING PRICING MECHANISM.

THE FOLLOWING TABLE GIVES A DISTRIBUTION OF EMPLOYERS BY SIZE.
THE SOURCE OF THIS DATA IS FROM A LIST WHICH HAS MATCHED
DUN & BRADSTREET, AND AMERICAN BUSINESS LISTS COMPANY FILES

EMPLOYER SIZE	TOTAL EMPLOYEES (PERCENT)
LESS THAN 25	1,623,093
	38.20%
25-49	410,945
	9.70%
50 TO 74	273,975
	6.40%
75 TO 99	147,355
	3.50%
100 OR MORE	1,796,006
	42.20%
TOTAL EMPLOYEES IN LA COUNTY	4,651,120
	100.00%

THE FOLLOWING TABLE GIVES A DISTRIBUTION OF COMMUTE
TRIPS BY DISTANCE. THIS DATA WAS MANIPULATED BASED ON CMP MODEL

FOR HOME TO WORK TRIPS

ONE WAY MILES	PERCENT OF TRIPS
1 TO 3	18.80%
4 TO 5	18.00%
6 TO 10	27.37%
11 TO 15	13.63%
16 TO 20	7.91%
21 OR MORE	14.31%

TRANSPORTATION MODEL LACMTA

PERCENT INCREASE (DECREASE) IN MODE SPLIT BETWEEN YEAR 1 AND 3 BASED
ON REGULATION XV DATA

MODE	PERCENT
DRIVE ALONE MODE	−10.40%
MOTORCYCLE	−0.21%
2−PERSON CARPOOL	6.56%
3−PERSON CARPOOL	1.93%
VANPOOL	1.32%
BUSPOOL	NA
TRANSIT	1.26%
WALK	−0.37%
BICYCLE	0.17%
TELECOMMUTING	0.09%
4/40 CWWS	4.67%
9/80 CWWS	0.35%

THE MAJORITY OF EMPLOYER SPONSORED VANPOOL PROGRAMS SERVE
LESS THAN 5% OF THE COMPANY WORKFORCE, TYPICALLY 1 TO 2%. THE ONE
WAY COMMUTE LENGTH WILL BE ASSUMED TO EQUAL OR EXCEED 11 MILES.
35% OF HOME−TO−WORK COMMUTE TRIPS ARE 11 MILES OR MORE.
VANPOOLING PROGRAMS IS MORE SUCCESSFUL AT LARGER SITES.
52% OF EMPLOYEES WORK AT ESTABLISHMENTS OVER 50 EMPLOYEES.

ASSUMPTIONS

PERCENT INCREASE IN NON−DRIVE ALONE MODE (STANDARD)	1.000%
PERCENT INCREASE IN NON−DRIVE ALONE MODE (HIGH)	3.000%
PERCENT OF EMPLOYEES AFFECTED	18.20%
PERCENT OF TRIPS REDUCED AFTER PARK−AND−RIDE TRAVEL	60.00%
PERCENT OF VANPOOL RIDERS THAT ARE SOV USERS	72.00%
AVERAGE TRIP LENGTH FOR VANPOOLS	28
THIS TCM AFFECTS COMMUTE TRIPS ONLY	
ELASTICITY OF PEAK SPEED WITH RESPECT TO VOLUME	0.70
ELASTICITY OF OFF−PEAK SPEED WITH RESPECT TO VOLUME	0.20

METHODOLOGY

TOTAL PERSON TRIPS REDUCED (TPTR) IS A FUNCTION OF;
TOTAL BASELINE COMMUTE PERSON TRIPS (TBCPT);
PERCENT INCREASE IN NON−DRIVE ALONE MODE (PIINDAM);
PERCENT OF NEW RIDERS THAT ARE SOV USERS (PNR)
PERCENT OF TRIPS REDUCED AFTER PARK−AND RIDE TRAVEL (PTRAPNRT) AND
PERCENT OF EMPLOYEES AFFECTED (PEA)

$$TPTR = (PIINDAM) \times (TBCPT) \times (PNR) \times (PTRAPNRT) \times (PEA)$$

TOTAL VEHICLE TRIPS REDUCED (TVTR) IS A FUNCTION OF:

TOTAL COMMUTE PERSON TRIPS REDUCED (TCPTR) AND
BASELINE AVERAGE VEHICLE RIDERSHIP FOR RIDESHARERS (BAVR)

$$TVTR = (TCPTR) / (BAVR)$$

TOTAL PEAK VEHICLE TRIPS REDUCED (TPVTR) IS A FUNCTION OF:

TOTAL VEHICLE TRIPS REDUCED (TVTR);
PERCENT OF COMMUTE TRIPS IN PEAK (PCPT);

TPVTR = (TVTR) X (PCPT))

TOTAL OFF−PEAK VEHICLE TRIPS REDUCED (TOPVTR) IS A FUNCTION OF:

TOTAL VEHICLE TRIPS REDUCED (TVTR) AND
TOTAL PEAK VEHICLE TRIPS REDUCED (TPVTR)

TOPVTR = (TVTR) − (TPVTR)

TOTAL PEAK VEHICLE MILES TRAVELED REDUCED (TPVMTR)
IS A FUNCTION OF:

TOTAL PEAK VEHICLE TRIPS REDUCED (TPVTR);
AVERAGE COMMUTE TRIP LENGTH (ACTL);
VEHICLE MILES REDUCED AFTER PARK−AND RIDE TRAVEL (PNRVMTR);
PERCENT OF TRIPS LOST AFTER PARK−AND−RIDE TRAVEL (PTLAPNRT)
WHICH IS (1−PTRAPNRT) AND
AVERAGE TRIP LENGTH SAVED AFTER PARK−AND−RIDE TRAVEL (ATLSAPNRT)
WHICH IS 2/3 OF AVERAGE TRIP LENGTH

TPVMTR = (TPVTR) X (ACTL) +   + ((PTLAPNRT) X (ATLSAPNRT)) X (TPVTR)

TOTAL OFF−PEAK VEHICLE MILES TRAVELED REDUCED (TOPVMTR)
IS A FUNCTION OF:

TOTAL OFF−PEAK VEHICLE TRIPS REDUCED (TOPVTR);
AVERAGE COMMUTE TRIP LENGTH (ACTL);
VEHICLE MILES REDUCED AFTER PARK−AND RIDE TRAVEL (PNRVMTR);
PERCENT OF TRIPS LOST AFTER PARK−AND−RIDE TRAVEL (PTLAPNRT)
WHICH IS (1−PTRAPNRT) AND
AVERAGE TRIP LENGTH SAVED AFTER PARK−AND−RIDE TRAVEL (ATLSAPNRT)
WHICH IS 2/3 OF AVERAGE TRIP LENGTH

TOPVMTR = (TOPVTR) X (ACTL) +   + ((PTLAPNRT) X (ATLSAPNRT)) X (TOPVTR)

TOTAL VEHICLE MILES TRAVELED REDUCED (TVMTR)
IS A FUNCTION OF:

TOTAL PEAK VEHICLE MILES TRAVELED REDUCED (TPVMTR) AND
TOTAL OFF−PEAK VEHICLE MILES TRAVELED REDUCED (TOPVMTR)

TVMTTR = (TPVMTR) + (TOPVMTR)

LIKELY OUTCOMES

TRIP REDUCTIONS	
TOTAL COMMUTE PERSON TRIPS REDUCED (STANDARD)	6,243
TOTAL COMMUTE PERSON TRIPS REDUCED (HIGH)	18,729
TOTAL VEHICLE TRIPS REDUCED (STANDARD)	5,233
TOTAL VEHICLE TRIPS REDUCED (HIGH)	15,699
TOTAL PEAK VEHICLE TRIPS REDUCED (STANDARD)	3,271
TOTAL PEAK VEHICLE TRIPS REDUCED (HIGH)	9,812
TOTAL OFF-PEAK VEHICLE TRIPS REDUCED (STANDARD)	1,962
TOTAL OFF-PEAK VEHICLE TRIPS REDUCED (HIGH)	5,887
VMT REDUCTIONS	
TOTAL REDUCTIONS IN PEAK VMT (STANDARD)	115,997
TOTAL REDUCTIONS IN PEAK VMT (HIGH)	347,992
TOTAL REDUCTIONS IN OFF-PEAK VMT (STANDARD)	69,598
TOTAL REDUCTIONS IN OFF-PEAK VMT (HIGH)	208,795
REDUCTIONS IN TOTAL VMT (STANDARD)	185,596
REDUCTIONS IN TOTAL VMT (HIGH)	556,787

TRANSPORTATION MODEL

TCM #7 INFORMAL RIDESHARING PROGRAM—CARPOOL AND VANPOOL ONLY

DESCRIPTION OF MEASURE

RIDESHARING INVOLVES PROGRAMS THAT PROMOTE AND PROVIDE
INCENTIVES FOR COMMUTERS TO SHARE RIDES IN CARPOOLS, VANPOOLS, AND
SUBSCRIPTION BUS SERVICES. THIS TCM AFFECTS WORK COMMUTE TRIPS.
THE HIGH END CORRESPONDS TO HAVING PARKING MANAGEMENT STRATEGIES,
AN INCREASE IN BUS SERVICES AND A FORM OF SUBSIDY TO RIDESHARERS

ASSUMPTIONS

PERCENT INCREASE IN THE NON—DRIVE ALONE MODE (STANDARD)	2.00%
PERCENT INCREASE IN THE NON—DRIVE ALONE MODE (HIGH)	4.00%
PERCENT OF TRIPS REDUCED AFTER PARK—AND—RIDE TRAVEL	70.00%
PERCENT OF NEW RIDESHARERS THAT ARE SOV USERS	74.20%
PERCENT OF EMPLOYEES AFFECTED	20.00%
AVERAGE SIZE OF CARPOOL	2.37

METHODOLOGY

TOTAL VEHICLE TRIPS REDUCED (TVTR) IS A FUNCTION OF:

AN ESTIMATED INCREASE IN RIDERSHIP (ERI);
TOTAL COMMUTE BASELINE VEHICLE TRIPS (TCBVT);
PERCENT OF NEW RIDERS THAT ARE SOV USERS (PNR);
PERCENT OF TRIPS REDUCED AFTER PARK—AND RIDE TRAVEL (PTRAPNRT) AND
PERCENT OF EMPLOYEES AFFECTED (PEA)

TVTR = (ERI) X (TCBVT) X (PNR) X (PTRAPNRT) X (PEA)

TOTAL PEAK VEHICLE TRIPS REDUCED (TPVTR) IS A FUNCTION OF:

TOTAL VEHICLE TRIPS REDUCED (TVTR);
PERCENT OF COMMUTE TRIPS IN PEAK (PCPT);

TPVTR = (TVTR) X (PCPT))

TOTAL OFF—PEAK VEHICLE TRIPS REDUCED (TOPVTR) IS A FUNCTION OF:

TOTAL VEHICLE TRIPS REDUCED (TVTR) AND
TOTAL PEAK VEHICLE TRIPS REDUCED (TPVTR)

TOPVTR = (TVTR) − (TPVTR)

TOTAL PEAK VEHICLE MILES TRAVELED REDUCED (TPVMTR)
IS A FUNCTION OF:
TOTAL PEAK VEHICLE TRIPS REDUCED (TPVTR);
AVERAGE COMMUTE TRIP LENGTH (ACTL);
VEHICLE MILES REDUCED DUE TO PARK—AND RIDE TRAVEL (PNRVMTR);
PERCENT OF TRIPS LOST DUE TO PARK—AND—RIDE TRAVEL (PTLAPNRT)
WHICH IS (1−PTRAPNRT) AND
AVERAGE TRIP LENGTH SAVED AFTER PARK—AND—RIDE TRAVEL (ATLSAPNRT)
WHICH IS 2/3 OF AVERAGE TRIP LENGTH

TPVMTR = (TPVTR) X (ACTL) + (TPVTR) X (PTLAPNRT) X (ATLSAPNRT)

TOTAL OFF–PEAK VEHICLE MILES TRAVELED REDUCED (TOPVMTR)
IS A FUNCTION OF:

TOTAL OFF–PEAK VEHICLE TRIPS REDUCED (TOPVTR);
AVERAGE COMMUTE TRIP LENGTH (ACTL);
VEHICLE MILES REDUCED AFTER PARK–AND RIDE TRAVEL (PNRVMTR);
PERCENT OF TRIPS LOST AFTER PARK–AND–RIDE TRAVEL (PTLAPNRT)
WHICH IS (1–PTRAPNRT) AND
AVERAGE TRIP LENGTH SAVED AFTER PARK–AND–RIDE TRAVEL (ATLSAPNRT)
WHICH IS 2/3 OF AVERAGE TRIP LENGTH

$$\text{TOPVMTR} = (\text{TOPVTR}) \times (\text{ACTL}) +$$
$$+ (\text{TPVTR}) \times ((\text{PTLAPNRT}) \times (\text{ATLSAPNRT}))$$

TOTAL VEHICLE MILES TRAVELED REDUCED (TVMTR)
IS A FUNCTION OF:

TOTAL PEAK VEHICLE MILES TRAVELED REDUCED (TPVMTR) AND
TOTAL OFF–PEAK VEHICLE MILES TRAVELED REDUCED (TOPVMTR)

$$\text{TVMTTR} = (\text{TPVMTR}) + (\text{TOPVMTR})$$

LIKELY OUTCOMES

TRIP REDUCTIONS	
TOTAL VEHICLE TRIPS REDUCED (STANDARD)	13,828
TOTAL VEHICLE TRIPS REDUCED (HIGH)	27,656
TOTAL PEAK VEHICLE TRIPS REDUCED (STANDARD)	8,642
TOTAL PEAK VEHICLE TRIPS REDUCED (HIGH)	17,285
TOTAL OFF–PEAK VEHICLE TRIPS REDUCED (STANDARD)	5,185
TOTAL OFF–PEAK VEHICLE TRIPS REDUCED (HIGH)	10,371
VMT REDUCTIONS	
TOTAL REDUCTIONS IN PEAK VMT (STANDARD)	111,383
TOTAL REDUCTIONS IN PEAK VMT (HIGH)	222,767
TOTAL REDUCTIONS IN OFF–PEAK VMT (STANDARD)	66,830
TOTAL REDUCTIONS IN OFF–PEAK VMT (HIGH)	133,660
REDUCTIONS IN TOTAL VMT (STANDARD)	178,213
REDUCTIONS IN TOTAL VMT (HIGH)	356,426

II) RIDESHARING FACILITIES

TCM# 8 RIDESHARING PASSENGER LOADING AREA

DESCRIPTIONS OF MEASURE

PROVIDE RIDESHARING LOADING AREA CLOSE TO THE BUILDING ENTRANCE
TO PROVIDE SAFE AND CONVENIENT LOADING AND UNLOADING FOR RIDESHARERS

ASSUMPTIONS

PERCENT OF OVERALL PERSON TRIPS IN RIDESHERING MODES	22.40%
PERCENT INCREASE IN NON−DRIVE ALONE MODE (STANDARD)	0.40%
PERCENT INCREASE IN NON−DRIVE ALONE MODE (HIGH)	0.80%
PERCENT OF TRIPS REDUCED AFTER CIRCULATION	75.00%
PERCENT OF DRIVE ALONE SHARE	74.20%

METHODOLOGY

TOTAL VEHICLE TRIPS REDUCED (TVTR) IS A FUNCTION OF:
AN ESTIMATED INCREASE IN RIDER SHIP (ERI);
TOTAL COMMUTE BASELINE VEHICLE TRIPS (TCBVT);
PERCENT OF NEW RIDERS THAT ARE SOV USERS (PNR);
PERCENT OF TRIPS REDUCED AFTER PARK−AND RIDE TRAVEL (PTRAPNRT);
PERCENT OF PERSON TRIPS AFFECTED (PPTA)
EXPECTED PARTICIPATION RATE (EPR)

TVTR = (ERI) X (TCBVT) X (PNR) X (PTRAPNRT) X (PPTA)

TOTAL PEAK VEHICLE TRIPS REDUCED (TPVTR) IS A FUNCTION OF:
TOTAL VEHICLE TRIPS REDUCED (TVTR);
PERCENT OF COMMUTE TRIPS IN PEAK (PCPT);

TPVTR = (TVTR) X (PCPT))

TOTAL OFF−PEAK VEHICLE TRIPS REDUCED (TOPVTR) IS A FUNCTION OF:
TOTAL VEHICLE TRIPS REDUCED (TVTR) AND
TOTAL PEAK VEHICLE TRIPS REDUCED (TPVTR)

TOPVTR = (TVTR) − (TPVTR)

TOTAL PEAK VEHICLE MILES TRAVELED REDUCED (TPVMTR)
IS A FUNCTION OF:
TOTAL PEAK VEHICLE TRIPS REDUCED (TPVTR);
AVERAGE COMMUTE TRIP LENGTH (ACTL);
VEHICLE MILES REDUCED DUE TO PARK−AND RIDE TRAVEL (PNRVMTR);
PERCENT OF TRIPS LOST DUE TO PARK−AND−RIDE TRAVEL (PTLAPNRT)
WHICH IS (1−PTRAPNRT) AND
AVERAGE TRIP LENGTH SAVED AFTER PARK−AND−RIDE TRAVEL (ATLSAPNRT)
WHICH IS 2/3 OF AVERAGE TRIP LENGTH

TPVMTR = (TPVTR) X (ACTL) +
 + (TPVTR) X ((PTLAPNRT) X (ATLSAPNRT))

TOTAL OFF–PEAK VEHICLE MILES TRAVELED REDUCED (TOPVMTR)
IS A FUNCTION OF:

TOTAL OFF–PEAK VEHICLE TRIPS REDUCED (TOPVTR);
AVERAGE COMMUTE TRIP LENGTH (ACTL);
VEHICLE MILES REDUCED AFTER PARK–AND RIDE TRAVEL (PNRVMTR);
PERCENT OF TRIPS LOST AFTER PARK–AND–RIDE TRAVEL (PTLAPNRT)
WHICH IS (1–PTRAPNRT) AND
AVERAGE TRIP LENGTH SAVED AFTER PARK–AND–RIDE TRAVEL (ATLSAPNRT)
WHICH IS 2/3 OF AVERAGE TRIP LENGTH

$$\text{TOPVMTR} = (\text{TOPVTR}) \times (\text{ACTL}) +$$
$$+ (\text{TPVTR}) \times ((\text{PTLAPNRT}) \times (\text{ATLSAPNRT}))$$

TOTAL VEHICLE MILES TRAVELED REDUCED (TVMTR)
IS A FUNCTION OF:

TOTAL PEAK VEHICLE MILES TRAVELED REDUCED (TPVMTR) AND
TOTAL OFF–PEAK VEHICLE MILES TRAVELED REDUCED (TOPVMTR)

$$\text{TVMTTR} = (\text{TPVMTR}) + (\text{TOPVMTR})$$

LIKELY OUTCOMES

TRIP REDUCTIONS	
TOTAL VEHICLE TRIPS REDUCED (STANDARD)	3,319
TOTAL VEHICLE TRIPS REDUCED (HIGH)	6,637
TOTAL PEAK VEHICLE TRIPS REDUCED (STANDARD)	2,074
TOTAL PEAK VEHICLE TRIPS REDUCED (HIGH)	4,148
TOTAL OFF–PEAK VEHICLE TRIPS REDUCED (STANDARD)	1,245
TOTAL OFF–PEAK VEHICLE TRIPS REDUCED (HIGH)	2,489
TRIP REDUCTIONS	
TOTAL REDUCTIONS IN PEAK VMT (STANDARD)	27,547
TOTAL REDUCTIONS IN PEAK VMT (HIGH)	55,094
TOTAL REDUCTIONS IN OFF–PEAK VMT (STANDARD)	16,528
TOTAL REDUCTIONS IN OFF–PEAK VMT (HIGH)	33,057
REDUCTIONS IN TOTAL VMT (STANDARD)	44,075
REDUCTIONS IN TOTAL VMT (HIGH)	88,151

TCM#9 CHILDECARE CENTERS

DESCRIPTION OF MEASURE

PROVIDE CHILDCARE CENTERS AT MULTIMODAL TRANSIT FACILITIES AND PARK–AND–RIDE LOTS

ASSUMPTIONS

NUMBER OF EXISTING PARK–AND–RIDE SPACES	11763
NUMBER OF PROPOSED PARK–AND–RIDE SPACES	19875
TOTAL PARK–AND–RIDE SPACE	31638
COMMUTERS TO BE ACCOMODATED	7910
UTILIZATION RATE (STANDARD)	75.00%
UTILIZATION RATE (HIGH)	100.00%
THIS TCM AFFECTS COMMUTE TRIPS ONLY	

METHODOLOGY

TOTAL VEHICLE TRIPS REDUCED (TVTR) IS EQUAL TO ZERO
TOTAL PEAK VEHICLE TRIPS REDUCED (TPVTR) IS EQUAL TO ZERO
TOTAL OFF–PEAK VEHICLE TRIPS REDUCED (TOPVTR) IS EQUAL TO ZERO

TOTAL PEAK VEHICLE MILES TRAVELED REDUCED (TPVMTR)
IS A FUNCTION OF:

TOTAL COMMUTERS ACCOMODATED (TCA);
AVERAGE COMMUTE TRIP LENGTH (ACTL);
VEHICLE MILES REDUCED DUE TO PARK–AND RIDE TRAVEL (PNRVMTR);
AVERAGE TRIP LENGTH SAVED AFTER PARK–AND–RIDE TRAVEL (ATLSAPNRT)
WHICH IS 2/3 OF AVERAGE TRIP LENGTH

TPVMTR = (TCA) X (ATLSAPNRT) X (PCPT)

TOTAL OFF–PEAK VEHICLE MILES TRAVELED REDUCED (TOPVMTR)
IS A FUNCTION OF:

TOTAL COMMUTERS ACCOMODATED (TCA);
AVERAGE COMMUTE TRIP LENGTH (ACTL);
VEHICLE MILES REDUCED AFTER PARK–AND RIDE TRAVEL (PNRVMTR);
AVERAGE TRIP LENGTH SAVED AFTER PARK–AND–RIDE TRAVEL (ATLSAPNRT)
WHICH IS 2/3 OF AVERAGE TRIP LENGTH AND
PERCENT OF COMMUTE TRIPS IN OFF–PEAK (PCOPT)

TOPVMTR = (TCA) X (ATLSAPNRT) X (PCOPT)

TOTAL VEHICLE MILES TRAVELED REDUCED (TVMTR)
IS A FUNCTION OF:

TOTAL PEAK VEHICLE MILES TRAVELED REDUCED (TPVMTR) AND
TOTAL OFF–PEAK VEHICLE MILES TRAVELED REDUCED (TOPVMTR)

TVMTTR = (TPVMTR) + (TOPVMTR)

LIKELY OUTCOMES

TRIP REDUCTIONS	
TOTAL VEHICLE TRIPS REDUCED (STANDARD)	0
TOTAL VEHICLE TRIPS REDUCED (HIGH)	0
TOTAL PEAK VEHICLE TRIPS REDUCED (STANDARD)	0
TOTAL PEAK VEHICLE TRIPS REDUCED (HIGH)	0
TOTAL OFF-PEAK VEHICLE TRIPS REDUCED (STANDARD)	0
TOTAL OFF-PEAK VEHICLE TRIPS REDUCED (HIGH)	0
VMT REDUCTIONS	
TOTAL REDUCTIONS IN PEAK VMT (STANDARD)	27,896
TOTAL REDUCTIONS IN PEAK VMT (HIGH)	37,194
TOTAL REDUCTIONS IN OFF-PEAK VMT (STANDARD)	16,737
TOTAL REDUCTIONS IN OFF-PEAK VMT (HIGH)	22,317
REDUCTIONS IN TOTAL VMT (STANDARD)	44,633
REDUCTIONS IN TOTAL VMT (HIGH)	59,511

TCM#10 BICYCLE IMPROVEMENTS

DESCRIPTION OF MEASURE

PROVIDE BICYCLE AND PEDESTRIAN IMPROVEMENTS SUCH AS LOCKERS, BIKE LANES
AND SHOWER FACILITIES TO ENCOURAGE MORE PEOPLE
TO USE WALKING AND BICYCLING AS THEIR MODE OF TRAVEL

ASSUMPTIONS

PERCENT OF EMPLOYEES AFFECTED	8.80%
PERCENT INCREASE IN BICYCLISTS(STANDARD)	1.00%
PERCENT INCREASE IN BICYCLISTS(HIGH)	2.00%

METHODOLOGY

TOTAL VEHICLE TRIPS REDUCED (TVTR) IS A FUNCTION OF:

AN ESTIMATED INCREASE IN RIDER SHIP (ERI);
TOTAL COMMUTE BASELINE VEHICLE TRIPS (TCBVT);
PERCENT OF NEW RIDERS THAT ARE SOV USERS (PNR);
PERCENT OF EMPLOYEES AFFECTED (PEA)

TVTR = (ERI) X (TCBVT) X (PNR) X (PEA)

TOTAL PEAK VEHICLE TRIPS REDUCED (TPVTR) IS A FUNCTION OF:

TOTAL VEHICLE TRIPS REDUCED (TVTR);
PERCENT OF COMMUTE TRIPS IN PEAK (PCPT);

TPVTR = (TVTR) X (PCPT))

TOTAL OFF-PEAK VEHICLE TRIPS REDUCED (TOPVTR) IS A FUNCTION OF:

TOTAL VEHICLE TRIPS REDUCED (TVTR) AND
TOTAL PEAK VEHICLE TRIPS REDUCED (TPVTR)

TOPVTR = (TVTR) − (TPVTR)

TOTAL PEAK VEHICLE MILES TRAVELED REDUCED (TPVMTR)
IS A FUNCTION OF:

TOTAL PEAK VEHICLE TRIPS REDUCED (TPVTR);
AVERAGE COMMUTE TRIP LENGTH (ACTL);

TPVMTR = (TPVTR) X (ACTL)

TOTAL OFF-PEAK VEHICLE MILES TRAVELED REDUCED (TOPVMTR)
IS A FUNCTION OF:

TOTAL OFF-PEAK VEHICLE TRIPS REDUCED (TOPVTR);
AVERAGE COMMUTE TRIP LENGTH (ACTL);

TOPVMTR = (TOPVTR) X (ACTL)

TOTAL VEHICLE MILES TRAVELED REDUCED (TVMTR)
IS A FUNCTION OF:

TOTAL PEAK VEHICLE MILES TRAVELED REDUCED (TPVMTR) AND
TOTAL OFF−PEAK VEHICLE MILES TRAVELED REDUCED (TOPVMTR)

TVMTTR = (TPVMTR) + (TOPVMTR)

LIKELY OUTCOMES

	STANDARD	HIGH
TOTAL VEHICLE TRIPS REDUCED	4,346	8,692
PEAK VEHICLE TRIPS REDUCED	1,738	3,477
OFF−PEAK VEHICLE TRIPS REDUCED	2,608	5,215
PEAK VMT	5,215	10,430
OFF−PEAK VMT	7,823	15,645
TOTAL VMT	13,038	26,075

III) RIDESHARING INCENTIVES

TCM # 11 EMPLOYEE TRANSIT SUBSIDY

DESCRIPTION OF MEASURE

SUBSIDIES FOR TRANSIT PASSES GIVEN BY AN EMPLOYER TO THEIR EMPLOYEES
TO ENCOURAGE THE USE OF PUBLIC TRANSPORTATION.

ASSUMPTIONS

PERCENT OF COST OF A MONTHLY PASS SUBSIDIZED	50.00%
PERCENT OF EMPLOYEES AFFECTED	10.00%
PERCENT OF RIDERS WHO ARE SOV USERS	60.00%
PERCENT OF TRIPS REDUCED AFTER PARK—AND—RIDE TRAVEL	70.00%
ELASTICITY OF TRANSIT WITH RESPECT TO COST (STANDARD)	0.3
ELASTICITY OF TRANSIT WITH RESPECT TO COST (HIGH)	0.45

THIS TCM WILL BE IMPLEMENTED IN SELECTED AREAS
IN THE COUNTY. SOME OF THE CRITERION USED WILL BE :
1) PRESENT TRANSIT ACCECIBILITY
2) PARKING AVAILABILITY
3) MODE SPLIT
4) INCOME LEVEL
5) ETHNICITY
6) EMPLOYMENT AND POPULATION DENSITY

THIS TCM ONLY AFFECTS COMMUTE TRIPS

BASED ON CASE STUDIES, THE ELASTICITY OF TRANSIT WITH RESPECT
TO COST RANGES FROM .15 TO .45.

FOR LOS ANGELES COUNTY THE ELASTICITY WITH RESPECT TO COST FOR 50% TRANSIT BUS PASS
SUBSIDY IS ASSUMED TO BE .3 (STANDARD) AND .45 (HIGH).
THE HIGH END ASSUMES THAT IN ADDITION TO PROVIDING
PASS SUBSIDY, AN INCREASE IN TRANSIT SERVICES, A PARKING PRICING
POLICY AND A RESTRICTION ON AUTO USE MEASURES ARE IMPLEMENTED. THIS
ELASTICITY WAS ALSO VALIDATED BY USING THE MULTINOMINAL LOGIT MODEL
PRESENTED ABOVE BY HOLDING SOME VARIABLE CONSTANT AND CHANGING COST,
SERVICE AND PARKING COST FOR AUTO USERS.

PERCENT OF RIDERSHIP INCREASE (STANDARD)   15.00%
PERCENT OF RIDERSHIP INCREASE (HIGH)   22.50%

METHODOLOGY

TOTAL VEHICLE TRIPS REDUCED (TVTR) IS A FUNCTION OF:

AN ESTIMATED INCREASE IN RIDERSHIP (ERI);
TOTAL COMMUTE BASELINE PERSON TRIPS (TCBPT);
PERCENT OF NEW RIDERS THAT ARE SOV USERS (PNR);
PERCENT OF TRIPS REDUCED AFTER PARK—AND RIDE TRAVEL (PTRAPNRT) AND
PERCENT OF EMPLOYEES AFFECTED (PEA)

TVTR = (ERI) X (TCBPT) X (PNR) X (PTRAPNRT) X (PEA)

TOTAL PEAK VEHICLE TRIPS REDUCED (TPVTR) IS A FUNCTION OF:

TOTAL VEHICLE TRIPS REDUCED (TVTR);
PERCENT OF COMMUTE TRIPS IN PEAK (PCPT);

TPVTR = (TVTR) X (PCPT))

TOTAL OFF–PEAK VEHICLE TRIPS REDUCED (TOPVTR) IS A FUNCTION OF:

TOTAL VEHICLE TRIPS REDUCED (TVTR) AND
TOTAL PEAK VEHICLE TRIPS REDUCED (TPVTR)

TOPVTR = (TVTR) − (TPVTR)

TOTAL PEAK VEHICLE MILES TRAVELED REDUCED (TPVMTR)
IS A FUNCTION OF:

TOTAL PEAK VEHICLE TRIPS REDUCED (TPVTR);
AVERAGE COMMUTE TRIP LENGTH (ACTL);
VEHICLE MILES REDUCED DUE TO PARK–AND RIDE TRAVEL (PNRVMTR);
PERCENT OF TRIPS LOST DUE TO PARK–AND–RIDE TRAVEL (PTLAPNRT)
WHICH IS (1−PTRAPNRT) AND
AVERAGE TRIP LENGTH SAVED AFTER PARK–AND–RIDE TRAVEL (ATLSAPNRT)
WHICH IS 2/3 OF AVERAGE TRIP LENGTH

TPVMTR = (TPVTR) X (ACTL) + + ((PTLAPNRT) X (ATLSAPNRT)) X (TPVTR)

TOTAL OFF–PEAK VEHICLE MILES TRAVELED REDUCED (TOPVMTR)
IS A FUNCTION OF:

TOTAL OFF–PEAK VEHICLE TRIPS REDUCED (TOPVTR);
AVERAGE COMMUTE TRIP LENGTH (ACTL);
VEHICLE MILES REDUCED AFTER PAR–AND RIDE TRAVEL (PNRVMTR);
PERCENT OF TRIPS LOST AFTER PARK–AND–RIDE TRAVEL (PTLAPNRT)
WHICH IS (1−PTRAPNRT) AND
AVERAGE TRIP LENGTH SAVED AFTER PARK–AND–RIDE TRAVEL (ATLSAPNRT)
WHICH IS 2/3 OF AVERAGE TRIP LENGTH

TOPVMTR = (TOPVTR) X (ACTL) + + ((PTLAPNRT) X (ATLSAPNRT)) X (TOPVTR)

TOTAL VEHICLE MILES TRAVELED REDUCED (TVMTR)
IS A FUNCTION OF:

TOTAL PEAK VEHICLE MILES TRAVELED REDUCED (TPVMTR) AND
TOTAL OFF–PEAK VEHICLE MILES TRAVELED REDUCED (TOPVMTR)

TVMTTR = (TPVMTR) + (TOPVMTR)

LIKELY OUTCOME

TRIP REDUCTIONS	
TOTAL VEHICLE TRIPS REDUCED (STANDARD)	50,023
TOTAL VEHICLE TRIPS REDUCED (HIGH)	75,035
TOTAL PEAK VEHICLE TRIPS REDUCED (STANDARD)	31,265
TOTAL PEAK VEHICLE TRIPS REDUCED (HIGH)	46,897
TOTAL OFF−PEAK VEHICLE TRIPS REDUCED (STANDARD)	18,759
TOTAL OFF−PEAK VEHICLE TRIPS REDUCED (HIGH)	28,138
VMT REDUCTIONS	
TOTAL REDUCTIONS IN PEAK VMT (STANDARD)	427,700
TOTAL REDUCTIONS IN PEAK VMT (HIGH)	641,550
TOTAL REDUCTIONS IN OFF−PEAK VMT (STANDARD)	256,620
TOTAL REDUCTIONS IN OFF−PEAK VMT (HIGH)	384,930
REDUCTIONS IN TOTAL VMT (STANDARD)	684,320
REDUCTIONS IN TOTAL VMT (HIGH)	1,026,480

TCM#12 VANPOOL SUBSIDEY

DESCRIPTION OF MEASURE

A $1 DAILY SUBSIDY FOR VANPOOLERS PER COMMUTE

ASSUMPTIONS

SUBSIDY PER RIDER PER TRIP	$1.00
COST PER TRIP PER VEHICLE	$5.00
ELASTICITY (STANDARD)	0.3
ELASTICITY (HIGH)	0.45
PERCENT CHANGE IN COST	20.00%
PERCENT INCREASE IN RIDERSHIP(STANDARD)	6.00%
PERCENT INCREASE IN RIDERSHIP (HIGH)	9.00%
PERCENT OF EMPLOYEES AFFECTED	18.20%
TRIPS REDUCED AFTER PARK-AND-RIDE TRAVEL	60.00%
PERCENT SHIFTING FROM DRIVE ALONE MODE	72.00%

METHODOLOGY

TOTAL VEHICLE TRIPS REDUCED (TVTR) IS A FUNCTION OF:
AN ESTIMATED INCREASE IN RIDERSHIP (ERI);
TOTAL COMMUTE BASELINE PERSON TRIPS (TCBPT);
PERCENT OF NEW RIDERS THAT ARE SOV USERS (PNR);
PERCENT OF TRIPS REDUCED AFTER PARK-AND RIDE TRAVEL (PTRAPNRT) AND
PERCENT OF EMPLOYEES AFFECTED (PEA)

$$TVTR = (ERI) \times (TCBPT) \times (PNR) \times (PTRAPNRT) \times (PEA)$$

TOTAL PEAK VEHICLE TRIPS REDUCED (TPVTR) IS A FUNCTION OF:
TOTAL VEHICLE TRIPS REDUCED (TVTR);
PERCENT OF COMMUTE TRIPS IN PEAK (PCPT);

$$TPVTR = (TVTR) \times (PCPT))$$

TOTAL OFF-PEAK VEHICLE TRIPS REDUCED (TOPVTR) IS A FUNCTION OF:
TOTAL VEHICLE TRIPS REDUCED (TVTR) AND
TOTAL PEAK VEHICLE TRIPS REDUCED (TPVTR)

$$TOPVTR = (TVTR) - (TPVTR)$$

TOTAL PEAK VEHICLE MILES TRAVELED REDUCED (TPVMTR)
IS A FUNCTION OF:
TOTAL PEAK VEHICLE TRIPS REDUCED (TPVTR);
AVERAGE COMMUTE TRIP LENGTH (ACTL);
VEHICLE MILES REDUCED DUE TO PARK-AND RIDE TRAVEL (PNRVMTR);
PERCENT OF TRIPS LOST DUE TO PARK-AND-RIDE TRAVEL (PTLAPNRT)
WHICH IS (1-PTRAPNRT) AND
AVERAGE TRIP LENGTH SAVED AFTER PARK-AND-RIDE TRAVEL (ATLSAPNRT)
WHICH IS 2/3 OF AVERAGE TRIP LENGTH

$$TPVMTR = (TPVTR) \times (ACTL) +$$
$$+ ((PTLAPNRT) \times (ATLSAPNRT)) \times (TPVTR)$$

TOTAL OFF-PEAK VEHICLE MILES TRAVELED REDUCED (TOPVMTR)
IS A FUNCTION OF:

TOTAL OFF-PEAK VEHICLE TRIPS REDUCED (TOPVTR);
AVERAGE COMMUTE TRIP LENGTH (ACTL);
VEHICLE MILES REDUCED AFTER PARK-AND RIDE TRAVEL (PNRVMTR);
PERCENT OF TRIPS LOST AFTER PARK-AND-RIDE TRAVEL (PTLAPNRT)
WHICH IS (1-PTRAPNRT) AND
AVERAGE TRIP LENGTH SAVED AFTER PARK-AND-RIDE TRAVEL (ATLSAPNRT)
WHICH IS 2/3 OF AVERAGE TRIP LENGTH

$$\text{TOPVMTR} = (\text{TOPVTR}) \times (\text{ACTL}) + \\ + ((\text{PTLAPNRT}) \times (\text{ATLSAPNRT})) \times (\text{TOPVTR})$$

TOTAL VEHICLE MILES TRAVELED REDUCED (TVMTR)
IS A FUNCTION OF:

TOTAL PEAK VEHICLE MILES TRAVELED REDUCED (TPVMTR) AND
TOTAL OFF-PEAK VEHICLE MILES TRAVELED REDUCED (TOPVMTR)

$$\text{TVMTTR} = (\text{TPVMTR}) + (\text{TOPVMTR})$$

LIKELY OUTCOMES

	STANDARD	HIGH
TOTAL TRIPS REDUCED	32,357	48,536
PEAK TRIPS REDUCED	20,223	30,335
OFF-PEAK TRIPS REDUCED	12,134	18,201
PEAK VMT REDUCED	752,304	1,128,456
OFF-PEAK VMT REDUCED	451,382	677,073
TOTAL VMT	1,203,686	1,805,529

TCM#13 CARPOOL SUBSIDY

DESCRIPTION OF MEASURE

A $1 PER COMMUTE TRIP PER DAY SUBSIDY FOR CARPOOLERS

ASSUMPTIONS

SUBSIDY PER PERSON PER TRIP	$1.00
OUT-OF-POCKET COST PER COMMUTE TRIP	$5.00
PERCENT CHANGE	20.00%
ELASTICITY (STANDARD)	0.3
ELASTICITY (HIGH)	0.45
PERCENT OF EMPLOYEES AFFECTED	20.00%
PERCENT OF TRIPS REDUCED AFTER PARK-N-RIDE TRAVEL	75.00%
DRIVE ALONE SHARE	74.20%

METHODOLOGY

TOTAL VEHICLE TRIPS REDUCED (TVTR) IS A FUNCTION OF:
AN ESTIMATED INCREASE IN RIDERSHIP (ERI);
TOTAL COMMUTE BASELINE PERSON TRIPS (TCBPT);
PERCENT OF NEW RIDERS THAT ARE SOV USERS (PNR);
PERCENT OF TRIPS REDUCED AFTER PARK-AND RIDE TRAVEL (PTRAPNRT) AND
PERCENT OF EMPLOYEES AFFECTED (PEA)

TVTR = (ERI) X (TCBPT) X (PNR) X (PTRAPNRT) X (PEA)

TOTAL PEAK VEHICLE TRIPS REDUCED (TPVTR) IS A FUNCTION OF:
TOTAL VEHICLE TRIPS REDUCED (TVTR);
PERCENT OF COMMUTE TRIPS IN PEAK (PCPT);

TPVTR = (TVTR) X (PCPT))

TOTAL OFF-PEAK VEHICLE TRIPS REDUCED (TOPVTR) IS A FUNCTION OF:
TOTAL VEHICLE TRIPS REDUCED (TVTR) AND
TOTAL PEAK VEHICLE TRIPS REDUCED (TPVTR)

TOPVTR = (TVTR) − (TPVTR)

TOTAL PEAK VEHICLE MILES TRAVELED REDUCED (TPVMTR)
IS A FUNCTION OF:

TOTAL PEAK VEHICLE TRIPS REDUCED (TPVTR);
AVERAGE COMMUTE TRIP LENGTH (ACTL);
VEHICLE MILES REDUCED DUE TO PARK-AND RIDE TRAVEL (PNRVMTR);
PERCENT OF TRIPS LOST DUE TO PARK-AND-RIDE TRAVEL (PTLAPNRT)
WHICH IS (1-PTRAPNRT) AND
AVERAGE TRIP LENGTH SAVED AFTER PARK-AND-RIDE TRAVEL (ATLSAPNRT)
WHICH IS 2/3 OF AVERAGE TRIP LENGTH

TPVMTR = (TPVTR) X (ACTL) +
+ ((PTLAPNRT) X (ATLSAPNRT)) X (TPVTR)

TOTAL OFF-PEAK VEHICLE MILES TRAVELED REDUCED (TOPVMTR)
IS A FUNCTION OF:

TOTAL OFF-PEAK VEHICLE TRIPS REDUCED (TOPVTR);
AVERAGE COMMUTE TRIP LENGTH (ACTL);
VEHICLE MILES REDUCED AFTER PARK-AND RIDE TRAVEL (PNRVMTR);
PERCENT OF TRIPS LOST AFTER PARK-AND-RIDE TRAVEL (PTLAPNRT)
WHICH IS (1-PTRAPNRT) AND
AVERAGE TRIP LENGTH SAVED AFTER PARK-AND-RIDE TRAVEL (ATLSAPNRT)
WHICH IS 2/3 OF AVERAGE TRIP LENGTH

TOPVMTR = (TOPVTR) X (ACTL) +
+ ((PTLAPNRT) X (ATLSAPNRT)) X (TOPVTR)

TOTAL VEHICLE MILES TRAVELED REDUCED (TVMTR)
IS A FUNCTION OF:

TOTAL PEAK VEHICLE MILES TRAVELED REDUCED (TPVMTR) AND
TOTAL OFF-PEAK VEHICLE MILES TRAVELED REDUCED (TOPVMTR)

TVMTTR = (TPVMTR) + (TOPVMTR)

LIKELY OUTCOMES

	STANDARD	HIGH
TOTAL VEHICLE TRIPS REDUCED	44,447	66,670
PEAK VEHICLE TRIPS REDUCED	27,779	41,669
OFF-PEAK VEHICLE TRIPS REDUCED	16,667	25,001
PEAK VMT	361,129	541,693
OFF-PEAK VMT	216,677	325,016
TOTAL VMT	577,806	866,709

TCM#14 BICYCLE SUBSIDY

DESCRIPTION OF MEASURE

A $1 SUBSIDY FOR BICYCLISTS PER DAILY COMMUTE TRIP

ASSUMPTIONS

SUBSIDY PER TRIP PER DAY	$1.00
OUT-OF-POCKET COST PER TRIP PER DAY	$5.00
PERCENT CHANGE	20.00%
ELASTICITY (STANDARD)	0.1
ELASTICITY(HIGH)	0.2
PERCENT INCREASE IN RIDERSHIP (STANDARD)	2.00%
PERCENT INCREASE IN RIDERSHIP (HIGH)	4.00%
PERCENT OF EMPLOYEES AFFECTED	8.80%

TOTAL VEHICLE TRIPS REDUCED (TVTR) IS A FUNCTION OF:

AN ESTIMATED INCREASE IN RIDER SHIP (ERI);
TOTAL COMMUTE BASELINE VEHICLE TRIPS (TCBVT);
PERCENT OF NEW RIDERS THAT ARE SOV USERS (PNR);
PERCENT OF EMPLOYEES AFFECTED (PEA)

TVTR = (ERI) X (TCBVT) X (PNR) X (PEA)

TOTAL PEAK VEHICLE TRIPS REDUCED (TPVTR) IS A FUNCTION OF:

TOTAL VEHICLE TRIPS REDUCED (TVTR);
PERCENT OF COMMUTE TRIPS IN PEAK (PCPT);

TPVTR = (TVTR) X (PCPT))

TOTAL OFF-PEAK VEHICLE TRIPS REDUCED (TOPVTR) IS A FUNCTION OF:

TOTAL VEHICLE TRIPS REDUCED (TVTR) AND
TOTAL PEAK VEHICLE TRIPS REDUCED (TPVTR)

TOPVTR = (TVTR) − (TPVTR)

TOTAL PEAK VEHICLE MILES TRAVELED REDUCED (TPVMTR)
IS A FUNCTION OF:

TOTAL PEAK VEHICLE TRIPS REDUCED (TPVTR);
AVERAGE COMMUTE TRIP LENGTH (ACTL);

TPVMTR = (TPVTR) X (ACTL)

TOTAL OFF-PEAK VEHICLE MILES TRAVELED REDUCED (TOPVMTR)
IS A FUNCTION OF:

TOTAL OFF-PEAK VEHICLE TRIPS REDUCED (TOPVTR);
AVERAGE COMMUTE TRIP LENGTH (ACTL);

TOPVMTR = (TOPVTR) X (ACTL)

TOTAL VEHICLE MILES TRAVELED REDUCED (TVMTR)
IS A FUNCTION OF:

TOTAL PEAK VEHICLE MILES TRAVELED REDUCED (TPVMTR) AND
TOTAL OFF-PEAK VEHICLE MILES TRAVELED REDUCED (TOPVMTR)

TVMTTR = (TPVMTR) + (TOPVMTR)

LIKELY OUTCOMES

	STANDARD	HIGH
TOTAL VEHICLE TRIPS REDUCED	8,692	17,384
TOTAL PEAK VEHICLE TRIPS REDUCED	5,432	10,865
TOTAL OFF-PEAK VEHICLE TRIPS REDUCED	3,259	6,519
PEAK VMT	16,297	32,594
OFF-PEAK VMT	9,778	19,557
TOTAL VMT REDUCED	26,075	52,151

TCM#15 WALKING SUBSIDY

DESCRIPTION OF MEASURE

A $1 SUBSIDY FOR WALKERS PER DAILY COMMUTE TRIP

ASSUMPTIONS

SUBSIDY PER TRIP PER COMMUTE TRIP PER DAY	$1.00
OUT−OF−POCKET COST PER TRIP PER DAY	$5.00
PERCENT CHANGE	20.00%
ELASTICITY (STANDARD)	0.1
ELASTICITY (HIGH)	0.2
PERCENT INCREASE IN NON−DRIVE ALONE SHARE (STANDARD)	2.00%
PERCENT INCREASE IN NON−DRIVE ALONE MODE (HIGH)	4.00%
PERCENT OF EMPLOYEES AFFECTED	8.80%

TOTAL VEHICLE TRIPS REDUCED (TVTR) IS A FUNCTION OF:

AN ESTIMATED INCREASE IN RIDER SHIP (ERI);
TOTAL COMMUTE BASELINE VEHICLE TRIPS (TCBVT);
PERCENT OF NEW RIDERS THAT ARE SOV USERS (PNR);
PERCENT OF EMPLOYEES AFFECTED (PEA)

TVTR = (ERI) X (TCBVT) X (PNR) X (PEA)

TOTAL PEAK VEHICLE TRIPS REDUCED (TPVTR) IS A FUNCTION OF:

TOTAL VEHICLE TRIPS REDUCED (TVTR);
PERCENT OF COMMUTE TRIPS IN PEAK (PCPT);

TPVTR = (TVTR) X (PCPT))

TOTAL OFF−PEAK VEHICLE TRIPS REDUCED (TOPVTR) IS A FUNCTION OF:

TOTAL VEHICLE TRIPS REDUCED (TVTR) AND
TOTAL PEAK VEHICLE TRIPS REDUCED (TPVTR)

TOPVTR = (TVTR) − (TPVTR)

TOTAL PEAK VEHICLE MILES TRAVELED REDUCED (TPVMTR)
IS A FUNCTION OF:

TOTAL PEAK VEHICLE TRIPS REDUCED (TPVTR);
AVERAGE COMMUTE TRIP LENGTH (ACTL):

TPVMTR = (TPVTR) X (ACTL)

TOTAL OFF–PEAK VEHICLE MILES TRAVELED REDUCED (TOPVMTR)
IS A FUNCTION OF:

TOTAL OFF–PEAK VEHICLE TRIPS REDUCED (TOPVTR);
AVERAGE COMMUTE TRIP LENGTH (ACTL);

TOPVMTR = (TOPVTR) X (ACTL)

TOTAL VEHICLE MILES TRAVELED REDUCED (TVMTR)
IS A FUNCTION OF:

TOTAL PEAK VEHICLE MILES TRAVELED REDUCED (TPVMTR) AND
TOTAL OFF–PEAK VEHICLE MILES TRAVELED REDUCED (TOPVMTR)

TVMTTR = (TPVMTR) + (TOPVMTR)

LIKELY OUTCOMES

	STANDARD	HIGH
TOTAL TRIPS REDUCED	8,692	17,384
PEAK TRIPS REDUCED	5,432	10,865
OFF–PEAK TRIPS REDUCED	3,259	6,519
PEAK VMT	10,865	21,729
OFF–PEAK VMT	6,519	13,038
TOTAL VMT	17,384	34,767

TCM#16 BUSPOOL SUBSIDY

DESCRIPTION OF MEASURE

PROVIDE A DAILY SUBSIDY OF $1 PER TRIP FOR BUSPOOLERS

ASSUMPTIONS

SUBSIDY PER RIDER PER TRIP PER DAY	$1.00
OUT−OF−POCKET COST PER COMMUTE TRIP	$5.00
ELASTICITY WITH RESPECT TO COST (STANDARD)	0.20
ELASTICITY WITH RESPECT TO COST (HIGH)	0.30
PERCENT CHANGE IN COST	20.00%
PERCENT INCREASE IN RIDERSHIP (STANDARD)	0.04
PERCENT INCREASE IN RIDERSHIP (HIGH)	0.06
PERCENT OF EMPLOYEES AFFECTED	15.00%
PERCENT OF TRIPS REDUCED AFTER PARK−AND−RIDE TRAVEL	0.75
PERCENT OF FORMER SOV USERS	0.7

METHODOLOGY

TOTAL VEHICLE TRIPS REDUCED (TVTR) IS A FUNCTION OF:

AN ESTIMATED INCREASE IN RIDERSHIP (ERI);
TOTAL COMMUTE BASELINE PERSON TRIPS (TCBPT);
PERCENT OF NEW RIDERS THAT ARE SOV USERS (PNR);
PERCENT OF TRIPS REDUCED AFTER PARK−AND RIDE TRAVEL (PTRAPNRT) AND
PERCENT OF EMPLOYEES AFFECTED (PEA)

TVTR = (ERI) X (TCBPT) X (PNR) X (PTRAPNRT) X (PEA)

TOTAL PEAK VEHICLE TRIPS REDUCED (TPVTR) IS A FUNCTION OF:

TOTAL VEHICLE TRIPS REDUCED (TVTR);
PERCENT OF COMMUTE TRIPS IN PEAK (PCPT);

TPVTR = (TVTR) X (PCPT))

TOTAL OFF−PEAK VEHICLE TRIPS REDUCED (TOPVTR) IS A FUNCTION OF:

TOTAL VEHICLE TRIPS REDUCED (TVTR) AND
TOTAL PEAK VEHICLE TRIPS REDUCED (TPVTR)

TOPVTR = (TVTR) − (TPVTR)

TOTAL PEAK VEHICLE MILES TRAVELED REDUCED (TPVMTR) IS A FUNCTION OF
TOTAL PEAK VEHICLE TRIPS REDUCED (TPVTR);
AVERAGE COMMUTE TRIP LENGTH (ACTL);
VEHICLE MILES REDUCED DUE TO PARK−AND RIDE TRAVEL (PNRVMTR);
PERCENT OF TRIPS LOST DUE TO PARK−AND−RIDE TRAVEL (PTLAPNRT)
WHICH IS (1−PTRAPNRT) AND
AVERAGE TRIP LENGTH SAVED AFTER PARK−AND−RIDE TRAVEL (ATLSAPNRT)
WHICH IS 2/3 OF AVERAGE TRIP LENGTH

$$\text{TPVMTR} = (\text{TPVTR}) \times (\text{ACTL}) + \\ + ((\text{PTLAPNRT}) \times (\text{ATLSAPNRT})) \times (\text{TPVTR})$$

TOTAL OFF−PEAK VEHICLE MILES TRAVELED REDUCED (TOPVMTR) IS A FUNCTION OF
TOTAL OFF−PEAK VEHICLE TRIPS REDUCED (TOPVTR);
AVERAGE COMMUTE TRIP LENGTH (ACTL);
VEHICLE MILES REDUCED AFTER PARK−AND RIDE TRAVEL (PNRVMTR);
PERCENT OF TRIPS LOST AFTER PARK−AND−RIDE TRAVEL (PTLAPNRT)
WHICH IS (1−PTRAPNRT) AND
AVERAGE TRIP LENGTH SAVED AFTER PARK−AND−RIDE TRAVEL (ATLSAPNRT)
WHICH IS 2/3 OF AVERAGE TRIP LENGTH

$$\text{TOPVMTR} = (\text{TOPVTR}) \times (\text{ACTL}) + \\ + ((\text{PTLAPNRT}) \times (\text{ATLSAPNRT})) \times (\text{TOPVTR})$$

TOTAL VEHICLE MILES TRAVELED REDUCED (TVMTR) IS A FUNCTION OF
TOTAL PEAK VEHICLE MILES TRAVELED REDUCED (TPVMTR) AND
TOTAL OFF−PEAK VEHICLE MILES TRAVELED REDUCED (TOPVMTR)

$$\text{TVMTTR} = (\text{TPVMTR}) + (\text{TOPVMTR})$$

LIKELY OUTCOMES

TRIP REDUCTIONS	
TOTAL VEHICLE TRIPS REDUCED (STANDARD)	20,965
TOTAL VEHICLE TRIPS REDUCED (HIGH)	31,448
TOTAL PEAK VEHICLE TRIPS REDUCED (STANDARD)	13,103
TOTAL PEAK VEHICLE TRIPS REDUCED (HIGH)	19,655
TOTAL OFF−PEAK VEHICLE TRIPS REDUCED (STANDARD)	7,862
TOTAL OFF−PEAK VEHICLE TRIPS REDUCED (HIGH)	11,793
VMT REDUCTIONS	
TOTAL REDUCTIONS IN PEAK VMT (STANDARD)	305,309
TOTAL REDUCTIONS IN PEAK VMT (HIGH)	457,963
TOTAL REDUCTIONS IN OFF−PEAK VMT (STANDARD)	183,185
TOTAL REDUCTIONS IN OFF−PEAK VMT (HIGH)	274,778
REDUCTIONS IN TOTAL VMT (STANDARD)	488,494
REDUCTIONS IN TOTAL VMT (HIGH)	732,741

IV) TRANSIT IMPROVEMENTS

TCM #17– TRANSIT SERVICE INCREASE

DESCRIPTION OF MEASURE

Improvements to the transit systems in terms of an increase in route
miles or decrease headways. Changes in route miles can be implemented
individually or in combination.

A TECHNICAL ANALYSIS HAS BEEN PERFORMED AT THREE U.S. CITIES
(FRESNO, MIAMI AND BOSTON) TO DETRMINE SHIFTS
BETWEEN MODES. SOME OF THE FINDINGS ARE PRESENTED HERE:

SWITCH TO BUS	PERCENT
1) ECONOMY	33.00%
2) CONVENIENCE	32.00%
3) OTHER MODES UNAVAILABLE	27.00%
4) DRIVER STRAIN	13.00%
5) ECOLOGY	10.00%
6) GOOD SCHEDULE	7.00%
7) SAVE TIME	6.00%
8) BETTER IN RAIN/SNOW	5.00%
9) SAFETY	4.00%

SWITCH FROM BUS	PERCENT
1) PREFER AUTO MODE	20.00%
2) CONVENIENCE	19.00%
3) POOR BUS SERVICE	12.00%
4) NEED CAR	5.00%
5) ECONOMY	5.00%
6) COMFORT	5.00%
7) SAVE TIME	14.00%
8) LESS EXPOSURE TO WEATHER	1.00%
9) SAFETY	3.00%

ASSUMPTIONS

THIS TCM WILL BE IMPLEMENTED IN SELECTED AREAS IN THE COUNTY
ACCORDING TO THE FOLLOWING CRITERION:

1) PRESENT TRANSIT ACCESSIBILITY
2) PARKING AVAILABILITY
3) MODE SPLIT
4) INCOME LEVEL
5) ETHNICITY
6) EMPLOYMENT AND POPULATION DENSITY

CASE STUDIES

1) AVERAGE BIG CITY NET REDUCTION IN DAILY TRIPS
FROM BUS SERVICE EXPANSION IS .1% TO .18% (TCMID)

2) AVERAGE BIG CITY NET REDUCTION IN DAILY TRIPS
FROM BUS AND RAIL EXPANSION IS 2.46% (HARVEY AND DEAKIN)

3) CASE STUDIES FROM SAN FRANCISCO SHOW AN
ELASTICITY OF .3–.6 FOR BOTH HEADWAY DECREASE AND
SERVICE EXPANSION (TRAVEL RESPONSE TO TRANSPORTATION SYSTEM
CHANGES BY BARTON–ASCHMAN ASSOCIATES, INC.)

4) HEADWAY AND SERVICE INCREASE ELASTICITIES RANGING
FROM .1 TO .7. FOR DIFFERENT SERVICES IN BOSTON AND OTHER MAJOR
U.S. CITIES (TRAVEL RESPONSE TO TRANSPORTATION SYSTEM
CHANGES BY BARTON–ASCHMAN ASSOCIATES, INC.)

5) BASED ON CASE STUDIES IN SEATTLE, WA; MIAMI,FL;
PORTLAND, OR; AND SAN DIEGO, CA THE ELASTICITY OF TRANSIT USE
WITH RESPECT TO SERVICE RANGES FROM .3 TO .75

THE STANDARD ELASTICITY FOR LOS ANGELES COUNTY WILL BE ASSUMED
TO BE .3. IF TRANSIT IMPROVEMENT WERE TO BE IMPLEMENTED TOGOTHER
WITH OTHER TCM STRATEGIES NAMELY; PARKING PRICING, FARE REDUCTION
AND AGGRESSIVE MARKETING, THE ELASTICITIES WITH RESPECT TO SERVICE
WILL BE ASSUMED TO BE .6

ELASTICITY OF TRANSIT USE WITH RESPECT TO SERVICE (STANDARD)	0.30
ELASTICITY OF TRANSIT USE WITH RESPECT TO SERVICE (HIGH)	0.60
ELASTICITY OF SPEED WITH RESPECT TO VOLUME (PEAK)	0.70
ELASTICITY OF SPEED WITH RESPECT TO VOLUME (OFF–PEAK)	0.20
PERCENT INCREASE IN SERVICE/HEADWAYS	10.00%
PERCENT INCREASE IN RIDERSHIP (STANDARD)	3.00%
PERCENT INCREASE IN RIDERSHIP (HIGH)	6.00%
PERCENT OF EMPLOYEES AFFECTED	30.00%

SOURCE OF NEW RIDERSHIP

BASED ON EXPERIENCE WITH MAJOR U.S. CITIES THE FOLLOWING SUMMARIZES
THE SOURCES OF NEW RIDERSHIP:

DRIVE ALONE	50.00%
CARPOOL/VANPOOL	20.00%
TRANSIT	12.00%
TAXI	2.00%
WALKING	9.00%
BICYCLING	7.00%

PERCENT OF RIDERSHIP INCREASE (STANDARD	3.00%
PERCENT OF RIDERSHIP INCREASE (HIGH)	6.00%
PERCENT OF NEW RIDERSHIP	60.00%
PERCENT OF TRIPS REDUCED AFTER THE EFFECT OF PARK/RIDE	70.00%

THE HIGH END OF ELASTICITIES IN ALL CASES WERE VALIDATED THEORETICALLY
USING MULTINOMIAL LOGIT MODELS. IN THIS MODEL, IT IS
ASSUMED THAT EACH ALTERNATIVE PRESENTED TO AN INDIVIDUAL
CAN BE REPRESENTED BY A SINGLE NUMBER Ui(s) WHERE THE SUBSCRIPT i
IS A LABEL IDENTIFYING THE ALTERNATIVE, AND THE S INDICATES
THAT THE VALUE Ui MAY VARY FROM INDIVIDUAL TO INDIVIDUAL.
THE Ui ARE FURTHER ASSUMED TO BE LINEAR FUNCTIONS OF THE DESCRIPTOR
OF THE ALTERNATIVES. THE PROBABILITY THAT ALTERNATIVE i WILL BE CHOSEN
IS GIVEN BY

$$Pm = EXP(Um)/SUM(EXP(Ui))$$

WHERE (Pm) IS THE PROBABILITY OF CHOOSING MODE (m)
(Um) IS THE TRAVELLER'S UTILITY OF MODE (m)
(i) REPRESENT THE SET OF AVAILABLE MODES;
(i) = (a) FOR DRIVE ALONE
     (s) SHARED RIDE
     (t) TRANSIT

THE MULTINOMIAL LOGIT MODEL DIFFERS BY TRIP PURPOSE
i.e. (HOME-BASED WORK MODE CHOICE MODEL, HOME-BASE SHOP, ETC...)
THE UTILITY COFFICIENT USED ARE FOUND IN U.S. DEPARTMENT OF
TRANSPORTATION MODE CHOICE MODEL REPORT AND ALSO FROM
TRACKING SOUTHERN CALIFORNIA'S AIR POLLUTION AND CONGESTION BY
ENVIRONMENTAL DEFENSE FUND(EDF 1991)

CHARACTERISTICS OF USAGE OF FRINGE PARKING FACILITIES FOR BUS SERVICE
BASED ON ACTUAL DATA FROM MILWAUKEE, SEATTLE, VANCOUVER AND MIAMI

PRIOR MODE	PERCENT
AUTO DRIVER	42.00%
AUTO PASSENGER	12.00%
WALK TO TRANSIT OR TO PARK/RIDE	44.00%
OTHER	2.00%

ACCESS MODE	PERCENT
AUTO DRIVER	30.00%
AUTO PASSENGER AND KISS/RIDE	42.00%
WALK	17.00%
TRANSIT/OTHER	9.00%

ACCESS DISTANCE	PERCENT
WITHIN 2 MILES	56.00%
WITHIN 5 MILES	88.00%
PARKED AUTO OCCUPANCY	1.2

METHODOLOGY

TOTAL VEHICLE TRIPS REDUCED (TVTR) IS A FUNCTION OF:
AN ESTIMATED INCREASE IN RIDERSHIP (ERI);
TOTAL BASELINE PERSON TRIPS (TBPT);
PERCENT OF ALL TRIPS THAT ARE TRANSIT (PTT);
PERCENT OF NEW RIDERS THAT ARE SOV USERS (PNR);
PERCENT OF TRIPS REDUCED AFTER PARK-AND RIDE TRAVEL (PTRAPNRT) AND
PERCENT OF EMPLOYEES AFFECTED (PEA)

$$TTR = (ERI) X (TBPT) X (PTT) X (PNR) X (PTRAPNRT) X (PEA)$$

TOTAL PEAK VEHICLE TRIPS REDUCED (TPVTR) IS A FUNCTION OF:
TOTAL TRIPS REDUCED (TTR);
TRANSIT COMMUTE TRIPS SHARE (TCTS);
PERCENT OF COMMUTE TRIPS IN PEAK (PCPT);
TRANSIT NON-COMMUTE TRIPS SHARE (TNCTS) AND
PERCENT OF NON-COMMUTE TRIPS IN PEAK (PNCPT)

$$TPVTR = (TTR) \times [((TCTS) \times (PCPT)) + ((TNCTS) \times (PNCPT))]$$

TOTAL OFF-PEAK VEHICLE TRIPS REDUCED (TOPVTR) IS A FUNCTION OF:

TOTAL TRIPS REDUCED (TTR) AND
TOTAL PEAK TRIPS REDUCED (PTR)

$$TOPVTR = (TTR) - (TPTR)$$

TOTAL PEAK VEHICLE MILES TRAVELED REDUCED (TPVMTR)
IS A FUNCTION OF:

TOTAL PEAK VEHICLE TRIPS REDUCED (TPVTR);
PERCENT OF COMMUTE TRIPS IN THE PEAK (PCPT);
AVERAGE COMMUTE TRIP LENGTH (ACTL);
PERCENT OF PEAK TRIPS THAT ARE NON-COMMUTE (PNCPT);
AVERAGE NON-COMMUTE TRIP LENGTH (ANCTL);
VEHICLE MILES REDUCED DUE TO PARK-AND RIDE TRAVEL (PNRVMTR);
PERCENT OF TRIPS LOST DUE TO PARK-AND-RIDE TRAVEL (PTLAPNRT)
WHICH IS (1-PTRAPNRT) AND
AVERAGE TRIP LENGTH SAVED AFTER PARK-AND-RIDE TRAVEL (ATLSAPNRT)
WHICH IS 2/3 OF AVERAGE TRIP LENGTH

$$TPVMTR = (TPVTR) \times [((PCPT) \times (ACTL)) +$$
$$+ ((PNCPT) \times (ANCTL)) +$$
$$+ ((PTLAPNRT) \times (ATLSAPNRT))]$$

TOTAL OFF-PEAK VEHICLE MILES TRAVELED REDUCED (TOPVMTR)
IS A FUNCTION OF:
TOTAL OFF-PEAK VEHICLE TRIPS REDUCED (TOPVTR);
PERCENT OF OFF-PEAK TRIPS THAT ARE COMMUTE (PCOPT);
AVERAGE COMMUTE TRIP LENGTH (ACTL);
PERCENT OF OFF-PEAK TRIPS THAT ARE NON-COMMUTE TRIPS (PNCOPT);
AVERAGE NON-COMMUTE TRIP LENGTH (ANCTL);
VEHICLE MILES REDUCED DUE TO PARK-AND RIDE TRAVEL (PNRVMTR);
PERCENT OF TRIPS LOST DUE TO PARK-AND-RIDE TRAVEL (PTLAPNRT)
WHICH IS (1-PTRAPNRT) AND
AVERAGE TRIP LENGTH SAVED AFTER PARK-AND-RIDE TRAVEL (ATLSAPNRT)
WHICH IS 2/3 OF AVERAGE TRIP LENGTH

$$TOPVMTR = (TOPVTR) \times [((PCOPT) \times (ACTL)) +$$
$$+ ((PNCOPT) \times (ANCTL)) +$$
$$+ ((PTLAPNRT) \times (ATLSAPNRT))]$$

TOTAL VEHICLE MILES TRAVELED REDUCED (TVMTR)
IS A FUNCTION OF:

TOTAL PEAK VEHICLE MILES TRAVELED REDUCED (TPVMTR) AND
TOTAL OFF-PEAK VEHICLE MILES TRAVELED REDUCED (TOPVMTR)

$$TVMTTR = (TPVMTR) + (TOPVMTR)$$

LIKELY OUTCOME

TRIP REDUCTIONS	
TOTAL VEHICLE TRIPS REDUCED (STANDARD)	3,802
TOTAL VEHICLE TRIPS REDUCED (HIGH)	7,604
TOTAL PEAK VEHICLE TRIPS REDUCED (STANDARD)	1,723
TOTAL PEAK VEHICLE TRIPS REDUCED (HIGH)	3,445
TOTAL OFF−PEAK VEHICLE TRIPS REDUCED (STANDARD)	2,079
TOTAL OFF−PEAK VEHICLE TRIPS REDUCED (HIGH)	4,158
VMT REDUCTIONS	
TOTAL REDUCTIONS IN PEAK VMT (STANDARD)	19,102
TOTAL REDUCTIONS IN PEAK VMT (HIGH)	38,204
TOTAL REDUCTIONS IN OFF−PEAK VMT (STANDARD)	28,443
TOTAL REDUCTIONS IN OFF−PEAK VMT (HIGH)	56,886
REDUCTIONS IN TOTAL VMT (STANDARD)	47,545
REDUCTIONS IN TOTAL VMT (HIGH)	95,090

TRANSPORTATION MODEL LACMTA

TCM #18 FEEDER SERVICES TO OR FROM FIXED ROUT|

DESCRIPTION OF MEASURE

IN THE CASE OF LIMITED PARK–AND RIDE LOTS
FEEDER SERVICES TO AND FROM FIXED ROUTE RAIL AND TRANSIT
COULD RESULT IN ELIMINATION OF SHORT TRIPS MADE
BY COMMUTERS TO A PARK–AND–RIDE LOTS

ASSUMPTIONS

THIS TCM AFFECTS COMMUTE TRIPS ONLY	
PERCENT OF EMPLOYEES AFFECTED	5.00%
AVERAGE TRIP LENGTH	5
PERCENT INCREASE IN RIDERSHIP	1.00%
PERCENT INCREASE IN RIDERSHIP	2.00%
PERCENT OF NEW RIDERS THAT ARE SOV USERS	75.00%

METHODOLOGY

TOTAL VEHICLE TRIPS REDUCED (TVTR) IS A FUNCTION OF:

AN ESTIMATED INCREASE IN RIDER SHIP (ERI);
TOTAL COMMUTE BASELINE VEHICLE TRIPS (TCBVT) AND
PERCENT OF NEW RIDERS THAT ARE SOV USERS (PNR)

$$TVTR = (ERI) \times (TCBVT) \times (PNR) \times \times (PEA)$$

TOTAL PEAK VEHICLE TRIPS REDUCED (TPVTR) IS A FUNCTION OF:

TOTAL VEHICLE TRIPS REDUCED (TVTR);
PERCENT OF COMMUTE TRIPS IN PEAK (PCPT);

$$TPVTR = (TVTR) \times (PCPT))$$

TOTAL OFF–PEAK VEHICLE TRIPS REDUCED (TOPVTR) IS A FUNCTION OF:

TOTAL VEHICLE TRIPS REDUCED (TVTR) AND
TOTAL PEAK VEHICLE TRIPS REDUCED (TPVTR)

$$TOPVTR = (TVTR) - (TPVTR)$$

TRANSPORTATION MODEL

TOTAL PEAK VEHICLE MILES TRAVELED REDUCED (TPVMTR)
IS A FUNCTION OF:

TOTAL PEAK VEHICLE TRIPS REDUCED (TPVTR) AND
AVERAGE COMMUTE TRIP LENGTH (ACTL)

TPVMTR = (TPVTR) X (ACTL)

TOTAL OFF-PEAK VEHICLE MILES TRAVELED REDUCED (TOPVMTR)
IS A FUNCTION OF:

TOTAL OFF-PEAK VEHICLE TRIPS REDUCED (TOPVTR) AND
AVERAGE COMMUTE TRIP LENGTH (ACTL)

TOPVMTR = (TOPVTR) X (ACTL)
TOTAL VEHICLE MILES TRAVELED REDUCED (TVMTR)
IS A FUNCTION OF:

TOTAL PEAK VEHICLE MILES TRAVELED REDUCED (TPVMTR) AND
TOTAL OFF-PEAK VEHICLE MILES TRAVELED REDUCED (TOPVMTR)

TVMTTR = (TPVMTR) + (TOPVMTR)

LIKELY OUTCOMES

TRIP REDUCTIONS	
TOTAL VEHICLE TRIPS REDUCED (STANDARD)	1,852
TOTAL VEHICLE TRIPS REDUCED (HIGH)	3,704
TOTAL PEAK VEHICLE TRIPS REDUCED (STANDARD)	1,157
TOTAL PEAK VEHICLE TRIPS REDUCED (HIGH)	2,315
TOTAL OFF-PEAK VEHICLE TRIPS REDUCED (STANDARD)	694
TOTAL OFF-PEAK VEHICLE TRIPS REDUCED (HIGH)	1,389
VMT REDUCTIONS	
TOTAL REDUCTIONS IN PEAK VMT (STANDARD)	5,787
TOTAL REDUCTIONS IN PEAK VMT (HIGH)	11,575
TOTAL REDUCTIONS IN OFF-PEAK VMT (STANDARD)	3,472
TOTAL REDUCTIONS IN OFF-PEAK VMT (HIGH)	6,945
REDUCTIONS IN TOTAL VMT (STANDARD)	9,260
REDUCTIONS IN TOTAL VMT (HIGH)	18,519

TCM#19 SUBSCRIPTION SERVICES FOR LONG COMMUTE

DESCRIPTION OF MEASURE

PROVIDE MATCHLIST AND BUSPOOLS FOR COMMUTERS OF 15
OR MORE MILES OF ONE WAY COMMUTE

ASSUMPTIONS

PERCENT OF EMPLOYEES AFFECTED	10.00%
PERCENT INCREASE IN RIDERSHIP (STANDARD)	1.00%
PERCENT INCREASE IN RIDERSHIP (HIGH)	2.00%
PERCENT OF TRIPS REDUCED AFTER CIRCULATION	75.00%
PERSENT OF COMMUTERS THAT ARE FORMER SOV USERS	70.00%

METHODOLOGY

TOTAL VEHICLE TRIPS REDUCED (TVTR) IS A FUNCTION OF:
AN ESTIMATED INCREASE IN RIDER SHIP (ERI);
TOTAL COMMUTE BASELINE VEHICLE TRIPS (TCBVT);
PERCENT OF NEW RIDERS THAT ARE SOV USERS (PNR);
PERCENT OF TRIPS REDUCED AFTER PARK–AND RIDE TRAVEL (PTRAPNRT) AND
PERCENT OF EMPLOYEES AFFECTED (PEA)

$$TVTR = (ERI) \ X \ (TCBVT) \ X \ (PNR) \ X \ (PTRAPNRT) \ X \ (PEA)$$

TOTAL PEAK VEHICLE TRIPS REDUCED (TPVTR) IS A FUNCTION OF:
TOTAL VEHICLE TRIPS REDUCED (TVTR);
PERCENT OF COMMUTE TRIPS IN PEAK (PCPT);

$$TPVTR = (TVTR) \ X \ (PCPT))$$

TOTAL OFF–PEAK VEHICLE TRIPS REDUCED (TOPVTR) IS A FUNCTION OF:
TOTAL VEHICLE TRIPS REDUCED (TVTR) AND
TOTAL PEAK VEHICLE TRIPS REDUCED (TPVTR)

$$TOPVTR = (TVTR) - (TPVTR)$$

TOTAL PEAK VEHICLE MILES TRAVELED REDUCED (TPVMTR)
IS A FUNCTION OF:
TOTAL PEAK VEHICLE TRIPS REDUCED (TPVTR);
AVERAGE COMMUTE TRIP LENGTH (ACTL);
VEHICLE MILES REDUCED DUE TO PARK–AND RIDE TRAVEL (PNRVMTR);
PERCENT OF TRIPS LOST DUE TO PARK–AND–RIDE TRAVEL (PTLAPNRT)
WHICH IS (1–PTRAPNRT) AND
AVERAGE TRIP LENGTH SAVED AFTER PARK–AND–RIDE TRAVEL (ATLSAPNRT)
WHICH IS 2/3 OF AVERAGE TRIP LENGTH

$$TPVMTR = (TPVTR) \ X \ (ACTL) +$$
$$+ (TPVTR) \ X \ ((PTLAPNRT) \ X \ (ATLSAPNRT))$$

TOTAL OFF-PEAK VEHICLE MILES TRAVELED REDUCED (TOPVMTR)
IS A FUNCTION OF:

TOTAL OFF-PEAK VEHICLE TRIPS REDUCED (TOPVTR);
AVERAGE COMMUTE TRIP LENGTH (ACTL);
VEHICLE MILES REDUCED AFTER PARK-AND RIDE TRAVEL (PNRVMTR);
PERCENT OF TRIPS LOST AFTER PARK-AND-RIDE TRAVEL (PTLAPNRT)
WHICH IS (1-PTRAPNRT) AND
AVERAGE TRIP LENGTH SAVED AFTER PARK-AND-RIDE TRAVEL (ATLSAPNRT)
WHICH IS 2/3 OF AVERAGE TRIP LENGTH

TOPVMTR = (TOPVTR) X (ACTL) +
+ (TPVTR) X ((PTLAPNRT) X (ATLSAPNRT))

TOTAL VEHICLE MILES TRAVELED REDUCED (TVMTR)
IS A FUNCTION OF:

TOTAL PEAK VEHICLE MILES TRAVELED REDUCED (TPVMTR) AND
TOTAL OFF-PEAK VEHICLE MILES TRAVELED REDUCED (TOPVMTR)

TVMTTR = (TPVMTR) + (TOPVMTR)

LIKELY OUTCOMES

TRIP REDUCTIONS	
TOTAL VEHICLE TRIPS REDUCED (STANDARD)	3,494
TOTAL VEHICLE TRIPS REDUCED (HIGH)	6,988
TOTAL PEAK VEHICLE TRIPS REDUCED (STANDARD)	2,184
TOTAL PEAK VEHICLE TRIPS REDUCED (HIGH)	4,368
TOTAL OFF-PEAK VEHICLE TRIPS REDUCED (STANDARD)	1,310
TOTAL OFF-PEAK VEHICLE TRIPS REDUCED (HIGH)	2,621
VMT REDUCTIONS	
TOTAL REDUCTIONS IN PEAK VMT (STANDARD)	43,764
TOTAL REDUCTIONS IN PEAK VMT (HIGH)	87,529
TOTAL REDUCTIONS IN OFF-PEAK VMT (STANDARD)	26,259
TOTAL REDUCTIONS IN OFF-PEAK VMT (HIGH)	52,517
REDUCTIONS IN TOTAL VMT (STANDARD)	70,023
REDUCTIONS IN TOTAL VMT (HIGH)	140,046

V) PARKING MANAGEMENT & PRICING

TCM#20 PARK-AND-RIDE LOTS

DESCRIPTION OF MEASURE

PARK-AND-RIDE LOTS TO ACCOMODATE CARPOOLERS, VANPOOLERS, AND TRANSIT RIDERS

ASSUMPTIONS

CAPACITY	3000
UTILIZATION RATE (STANDARD)	75.00%
UTILIZATION RATE (HIGH)	100.00%
PERCENT OF TRIPS REDUCED DUE TO NON-DRIVE ALONE MODE TO P-	54.00%
TOTAL EXISTING PARK-AND-RIDE SPACES	11,763
TOTAL PROPOSED PARK-AND-RIDE SPACES	18,975
PERCENT INCREASE IN SPACES	9.76%

METHODOLOGY

TOTAL VEHICLE TRIPS REDUCED (TVTR) IS A FUNCTION OF:

CAPACITY (C);
UTILIZATION RATE (UR) AND
PERCENT OF TRIPS REDUCED AFTER
NON-DRIVE ALONE TRAVEL TO
PARK-AND-RIDE LOTS (PTRAPNRT)

TVTR = (C) X (UR) X (PTRAPNRT)

TOTAL VEHICLE TRIPS REDUCED (TVTR);
PERCENT OF COMMUTE TRIPS IN PEAK (PCPT);

TPVTR = (TVTR) X (PCPT))

TOTAL OFF-PEAK VEHICLE TRIPS REDUCED (TOPVTR) IS A FUNCTION OF:
TOTAL VEHICLE TRIPS REDUCED (TVTR) AND
TOTAL PEAK VEHICLE TRIPS REDUCED (TPVTR)

TOPVTR = (TVTR) - (TPVTR)

TOTAL PEAK VEHICLE MILES TRAVELED REDUCED (TPVMTR)
IS A FUNCTION OF:

TOTAL PEAK VEHICLE TRIPS REDUCED (TPVTR);
AVERAGE COMMUTE TRIP LENGTH (ACTL);
VEHICLE MILES REDUCED DUE TO PARK-AND RIDE TRAVEL (PNRVMTR);
PERCENT OF TRIPS LOST DUE TO PARK-AND-RIDE TRAVEL (PTLAPNRT)
WHICH IS (1-PTRAPNRT) AND
AVERAGE TRIP LENGTH SAVED AFTER PARK-AND-RIDE TRAVEL (ATLSAPNRT)
WHICH IS 2/3 OF AVERAGE TRIP LENGTH

TPVMTR = (TPVTR) X (ACTL) +
+ ((PTLAPNRT) X (ATLSAPNRT)) X (TPVTR)

TOTAL OFF–PEAK VEHICLE MILES TRAVELED REDUCED (TOPVMTR)
IS A FUNCTION OF:

TOTAL OFF–PEAK VEHICLE TRIPS REDUCED (TOPVTR);
AVERAGE COMMUTE TRIP LENGTH (ACTL);
VEHICLE MILES REDUCED AFTER PARK–AND RIDE TRAVEL (PNRVMTR);
PERCENT OF TRIPS LOST AFTER PARK–AND–RIDE TRAVEL (PTLAPNRT)
WHICH IS (1–PTRAPNRT) AND
AVERAGE TRIP LENGTH SAVED AFTER PARK–AND–RIDE TRAVEL (ATLSAPNRT)
WHICH IS 2/3 OF AVERAGE TRIP LENGTH

TOPVMTR = (TOPVTR) X (ACTL) +
+ ((PTLAPNRT) X (ATLSAPNRT)) X (TOPVTR)

TOTAL VEHICLE MILES TRAVELED REDUCED (TVMTR)
IS A FUNCTION OF:

TOTAL PEAK VEHICLE MILES TRAVELED REDUCED (TPVMTR) AND
TOTAL OFF–PEAK VEHICLE MILES TRAVELED REDUCED (TOPVMTR)

TVMTTR = (TPVMTR) + (TOPVMTR)

LIKELY OUTCOMES

	STANDARD	HIGH
TOTAL VEHICLE TRIPS REDUCED	1,215	1,620
PEAK VEHICLE TRIPS REDUCED	759	1,013
OFF–PEAK VEHICLE TRIPS REDUCED	456	608
PEAK VMT	16,031	21,375
OFF–PEAK VMT	9,619	12,825
TOTAL VMT	25,650	34,200

TCM#21 PREFERENTIAL PARKING FOR CARPOOLS AND VANPOOLS

DESCRIPTION OF MEASURE

PROVIDE PREFERENTIAL PARKING SPACES CLOSE TO THE BUILDING ENTRANCE
FOR CARPOOLERS AND VANPOOLERS

ASSUMPTIONS

NUMBER OF SPACES RESERVED AS PREFERENTIAL PARKING	5.00%
PERCENT OF SPACES UTILIZED(STANDARD)	75.00%
PERCENT OF SPACES UTILIZED (HIGH)	100.00%
PERCENT OF TRIPS REDUCED AFTER PARK−AND−RIDE TRAVEL	75.00%
AVERAGE VEHICLE OCCUPANCY FOR CARPOOLS	2.36
PERCENT OF ALL PARKING SPACES AFFECTED	100.00%
PERCENT OF TRIPS REDUCED (STANDARD)	4.00%
PERCENT OF TRIPS REDUCED (HIGH)	8.00%

METHODOLOGY

TOTAL VEHICLE TRIPS REDUCED (TVTR) IS A FUNCTION OF:

AN ESTIMATED INCREASE IN RIDERSHIP (ERI);
TOTAL COMMUTE BASELINE VEHICLE TRIPS (TCBVT);
PERCENT OF NEW RIDERS THAT ARE SOV USERS (PNR);
PERCENT OF PARKING SPACES AFFECTED (PPSA)
PERCENT OF SPACES UTILIZED(PSU)
AVERAGE VEHICLE OCCUPANCY FOR CARPOOLS (AVO)

$$TVTR = (ERI) \times (TCBVT) \times (PNR) \times$$
$$\times (PPSA) / (AVO)$$

TOTAL PEAK VEHICLE TRIPS REDUCED (TPVTR) IS A FUNCTION OF:

TOTAL VEHICLE TRIPS REDUCED (TVTR);
PERCENT OF COMMUTE TRIPS IN PEAK (PCPT);

$$TPVTR = (TVTR) \times (PCPT))$$

TOTAL OFF−PEAK VEHICLE TRIPS REDUCED (TOPVTR) IS A FUNCTION OF:

TOTAL VEHICLE TRIPS REDUCED (TVTR) AND
TOTAL PEAK VEHICLE TRIPS REDUCED (TPVTR)

$$TOPVTR = (TVTR) - (TPVTR)$$

TOTAL PEAK VEHICLE MILES TRAVELED REDUCED (TPVMTR)
IS A FUNCTION OF:

TOTAL PEAK VEHICLE TRIPS REDUCED (TPVTR);
AVERAGE COMMUTE TRIP LENGTH (ACTL);
VEHICLE MILES REDUCED DUE TO PARK–AND RIDE TRAVEL (PNRVMTR);
PERCENT OF TRIPS LOST DUE TO PARK–AND–RIDE TRAVEL (PTLAPNRT)
WHICH IS (1–PTRAPNRT) AND
AVERAGE TRIP LENGTH SAVED AFTER PARK–AND–RIDE TRAVEL (ATLSAPNRT)
WHICH IS 2/3 OF AVERAGE TRIP LENGTH

$$\text{TPVMTR} = (\text{TPVTR}) \times (\text{ACTL}) +$$
$$+ ((\text{PTLAPNRT}) \times (\text{ATLSAPNRT})) \times (\text{TPVTR})$$

TOTAL OFF–PEAK VEHICLE MILES TRAVELED REDUCED (TOPVMTR)
IS A FUNCTION OF:

TOTAL OFF–PEAK VEHICLE TRIPS REDUCED (TOPVTR);
AVERAGE COMMUTE TRIP LENGTH (ACTL);
VEHICLE MILES REDUCED AFTER PARK–AND RIDE TRAVEL (PNRVMTR);
PERCENT OF TRIPS LOST AFTER PARK–AND–RIDE TRAVEL (PTLAPNRT)
WHICH IS (1–PTRAPNRT) AND
AVERAGE TRIP LENGTH SAVED AFTER PARK–AND–RIDE TRAVEL (ATLSAPNRT)
WHICH IS 2/3 OF AVERAGE TRIP LENGTH

$$\text{TOPVMTR} = (\text{TOPVTR}) \times (\text{ACTL}) +$$
$$+ ((\text{PTLAPNRT}) \times (\text{ATLSAPNRT})) \times (\text{TOPVTR})$$

TOTAL VEHICLE MILES TRAVELED REDUCED (TVMTR)
IS A FUNCTION OF:

TOTAL PEAK VEHICLE MILES TRAVELED REDUCED (TPVMTR) AND
TOTAL OFF–PEAK VEHICLE MILES TRAVELED REDUCED (TOPVMTR)

$$\text{TVMTTR} = (\text{TPVMTR}) + (\text{TOPVMTR})$$

LIKELY OUTCOMES

	STANDARD	HIGH
TOTAL TRIPS REDUCED	2,222	4,444
PEAK TRIP REDUCTIONS	1,400	2,800
OFF–PEAK TRIPS	822	1,644
PEAK VMT	15,960	31,920
OFF–PEAK VMT	9,371	18,741
TOTAL VMT	25,331	50,662

TCM # 23.1 PARKING MANAGEMENT (SCENARIO1)

DESCRIPTION OF MEASURE

PARKING PRICING STRATEGIES TO DISCOURAGE THE USE OF AUTOMOBILE
AS A MODE OF TRAVEL FOR COMMUTE TRIPS.

ASSUMPTIONS

AVERAGE DAILY INCREASE IN PARKING CHARGE	$0.50
PERCENT CHANGE IN COST	5.00%
PERCENT OF EMPLOYEES AFFECTED	100.00%
PERCENT OF TRIPS REDUCED AFTER THE EFFECT OF	70.00%
CIRCULATION OR PARK−N−RIDE LOTS	
DRIVE ALONE SHARE	74.20%
ELASTICITIES WITH RESPECT TO PARKING COST	
RANGES FROM .2 TO .28. SOURCE (THOMAS STERNER, 1990)	
THE HIGH END OF ELASTICITIES CORRESPOND TO PROVIDING	
NON−DRIVE ALONE MODE INCENTIVES AND TRANSIT SERVICES.	
ELASTICITY OF PARKING DEMAND WITH RESPECT TO	
COST FOR COMMUTE TRIPS (STANDARD)	0.10
ELASTICITY OF PARKING DEMAND WITH RESPECT TO	
COST FOR COMMUTE TRIPS (HIGH)	0.15
ELASTICITY OF SPEED WITH RESPECT TO VOLUME FOR PEAK TRIPS	0.63
ELASTICITY OF SPEED WITH RESPECT TO VOLUME FOR OFF−PEAK TRIP	0.25

METHODOLOGY

PERCENTAGE CHANGE IN COMMUTE COST= INCREASE IN COST/
/AVERAGE DAILY COMMUTE COST
TOTAL VEHICLE TRIPS REDUCED (TVTR) IS A FUNCTION OF:
TOTAL BASELINE COMMUTE VEHICLE TRIPS (TCBVT)
PERCENT CHANGE IN OUT−OF−POCKET COMMUTE TRIP COST (PCIC)
ELASTICITY OF COMMUTING WITH RESPECT TO COST (EWRTC)
PERCENT OF NEW RIDERS THAT ARE SOV USERS (PNR);
PERCENT OF TRIPS REDUCED AFTER PARK−AND RIDE TRAVEL (PTRAPNRT) AND
PERCENT OF EMPLOYEES AFFECTED (PEA)

TVTR = (TCBVT) X (PCIC) X (EWRTC) X (PNR) X (PTRAPNRT) X (PEA)

TOTAL PEAK VEHICLE TRIPS REDUCED (TPVTR) IS A FUNCTION OF:
TOTAL VEHICLE TRIPS REDUCED (TVTR);
PERCENT OF COMMUTE TRIPS IN PEAK (PCPT);

TPVTR = (TVTR) X (PCPT))

TOTAL OFF−PEAK VEHICLE TRIPS REDUCED (TOPVTR) IS A FUNCTION OF:

TOTAL VEHICLE TRIPS REDUCED (TVTR) AND
TOTAL PEAK VEHICLE TRIPS REDUCED (TPVTR)

TOPVTR = (TVTR) − (TPVTR)

TOTAL PEAK VEHICLE MILES TRAVELED REDUCED (TPVMTR)
IS A FUNCTION OF:

TOTAL PEAK VEHICLE TRIPS REDUCED (TPVTR);
AVERAGE COMMUTE TRIP LENGTH (ACTL);
VEHICLE MILES REDUCED DUE TO PARK—AND RIDE TRAVEL (PNRVMTR);
PERCENT OF TRIPS LOST DUE TO PARK—AND—RIDE TRAVEL (PTLAPNRT)
WHICH IS (1—PTRAPNRT) AND
AVERAGE TRIP LENGTH SAVED AFTER PARK—AND—RIDE TRAVEL (ATLSAPNRT)
WHICH IS 2/3 OF AVERAGE TRIP LENGTH

$$TPVMTR = (TPVTR) \times (ACTL) +$$
$$+ ((PTLAPNRT) \times (ATLSAPNRT)) \times (TPVTR)$$

TOTAL OFF—PEAK VEHICLE MILES TRAVELED REDUCED (TOPVMTR)
IS A FUNCTION OF:

TOTAL OFF—PEAK VEHICLE TRIPS REDUCED (TOPVTR);
AVERAGE COMMUTE TRIP LENGTH (ACTL);
VEHICLE MILES REDUCED AFTER PARK—AND RIDE TRAVEL (PNRVMTR);
PERCENT OF TRIPS LOST AFTER PARK—AND—RIDE TRAVEL (PTLAPNRT)
WHICH IS (1—PTRAPNRT) AND
AVERAGE TRIP LENGTH SAVED AFTER PARK—AND—RIDE TRAVEL (ATLSAPNRT)
WHICH IS 2/3 OF AVERAGE TRIP LENGTH

$$TOPVMTR = (TOPVTR) \times (ACTL) +$$
$$+ ((PTLAPNRT) \times (ATLSAPNRT)) \times (TOPVTR)$$

TOTAL VEHICLE MILES TRAVELED REDUCED (TVMTR)
IS A FUNCTION OF:
TOTAL PEAK VEHICLE MILES TRAVELED REDUCED (TPVMTR) AND
TOTAL OFF—PEAK VEHICLE MILES TRAVELED REDUCED (TOPVMTR)

$$TVMTTR = (TPVMTR) + (TOPVMTR)$$

LIKELY OUTCOMES

TRIP REDUCTIONS	
TOTALCOMMUTE VEHICLE TRIPS REDUCED (STANDARD)	17,285
TOTAL COMMUTE VEHICLE TRIPS REDUCED (HIGH)	25,927
PEAK COMMUTE VEHICLE TRIPS REDUCED (STANDARD)	10,803
PEAK COMMUTE VEHICLE TRIPS REDUCED (HIGH)	16,205
OFF—PEAK COMMUTE TRIP REUCTIONS (STANDARD)	6,482
OFF—PEAK COMMUTE TRIP REUCTIONS (HIGH)	9,723
TRIP REDUCTIONS	
REDUCTION IN PEAK VMT (STANDARD)	143,475
REDUCTION IN PEAK VMT (HIGH)	215,212
REDUCTION IN OFF—PEAK VMT (STANDARD)	86,085
REDUCTION IN OFF—PEAK VMT (HIGH)	129,127
REDUCTION IN TOTAL VMT (STANDARD)	229,559
REDUCTION IN TOTAL VMT (HIGH)	344,339

TCM # 23.3 PARKING MANAGEMENT (SCENARIO 3)

DESCRIPTION OF MEASURE

PARKING PRICING STRATEGIES TO DISCOURAGE THE USE OF AUTOMOBILE
AS A MODE OF TRAVEL FOR COMMUTE TRIPS.

ASSUMPTIONS

AVERAGE DAILY INCREASE IN PARKING CHARGE	$3.00
PERCENT CHANGE IN COST	30.00%
PERCENT OF EMPLOYEES AFFECTED	100.00%
PERCENT OF TRIPS REDUCED AFTER PARK−N−RIDE TRAVEL	70.00%
DRIVE ALONE MODE SHARE OF COMMUTE TRIPS	74.20%
ELASTICITIES WITH RESPECT TO PARKING COST RANGES FROM .2 TO .28. SOURCE (THOMAS STERNER, 1990)	
THE HIGH END OF ELASTICITIES CORRESPOND TO PROVIDING NON−DRIVE ALONE MODE INCENTIVES AND TRANSIT SERVICES.	
ELASTICITY OF PARKING DEMAND WITH RESPECT TO COST FOR COMM	0.20
ELASTICITY OF PARKING DEMAND WITH RESPECT TO COST FOR COMM	0.28
ELASTICITY OF PEAK SPEED WITH RESPECT TO VOLUME	0.70
ELASTICITY OF OFF−PEAK SPEED WITH RESPECT TO VOLUME	0.20

METHODOLOGY

PERCENTAGE CHANGE IN COMMUTE COST= INCREASE IN COST/
/AVERAGE DAILY COMMUTE COST

TOTAL VEHICLE TRIPS REDUCED (TVTR) IS A FUNCTION OF:
TOTAL BASELINE COMMUTE VEHICLE TRIPS (TCBVT)
PERCENT CHANGE IN OUT−OF−POCKET COMMUTE TRIP COST (PCIC)
ELASTICITY OF COMMUTING WITH RESPECT TO COST (EWRTC)
PERCENT OF NEW RIDERS THAT ARE SOV USERS (PNR);
PERCENT OF TRIPS REDUCED AFTER PARK−AND RIDE TRAVEL (PTRAPNRT) AND
PERCENT OF EMPLOYEES AFFECTED (PEA)

TVTR = (TCBVT) X (PCIC) X (EWRTC) X (PNR) X (PTRAPNRT) X (PEA)

TOTAL PEAK VEHICLE TRIPS REDUCED (TPVTR) IS A FUNCTION OF:
TOTAL VEHICLE TRIPS REDUCED (TVTR);
PERCENT OF COMMUTE TRIPS IN PEAK (PCPT);

TPVTR = (TVTR) X (PCPT))

TOTAL OFF−PEAK VEHICLE TRIPS REDUCED (TOPVTR) IS A FUNCTION OF:
TOTAL VEHICLE TRIPS REDUCED (TVTR) AND
TOTAL PEAK VEHICLE TRIPS REDUCED (TPVTR)

TOPVTR = (TVTR) − (TPVTR)

TOTAL PEAK VEHICLE MILES TRAVELED REDUCED (TPVMTR)
IS A FUNCTION OF:

TOTAL PEAK VEHICLE TRIPS REDUCED (TPVTR);
AVERAGE COMMUTE TRIP LENGTH (ACTL);
VEHICLE MILES REDUCED AFTER PARK-AND RIDE TRAVEL (PNRVMTR);
PERCENT OF TRIPS LOST DUE TO PARK-AND-RIDE TRAVEL (PTLAPNRT)
WHICH IS (1-PTRAPNRT) AND
AVERAGE TRIP LENGTH SAVED AFTER PARK-AND-RIDE TRAVEL (ATLSAPNRT)
WHICH IS 2/3 OF AVERAGE TRIP LENGTH

TPVMTR = (TPVTR) X (ACTL) +
+ ((PTLAPNRT) X (ATLSAPNRT)) X (TPVTR)

TOTAL OFF-PEAK VEHICLE MILES TRAVELED REDUCED (TOPVMTR) IS A FUNCTION OF:
TOTAL OFF-PEAK VEHICLE TRIPS REDUCED (TOPVTR);
AVERAGE COMMUTE TRIP LENGTH (ACTL);
VEHICLE MILES REDUCED AFTER PARK-AND RIDE TRAVEL (PNRVMTR);
PERCENT OF TRIPS LOST AFTER PARK-AND-RIDE TRAVEL (PTLAPNRT)
WHICH IS (1-PTRAPNRT) AND
AVERAGE TRIP LENGTH SAVED AFTER PARK-AND-RIDE TRAVEL (ATLSAPNRT)
WHICH IS 2/3 OF AVERAGE TRIP LENGTH

TOPVMTR = (TOPVTR) X (ACTL) +
+ ((PTLAPNRT) X (ATLSAPNRT)) X (TOPVTR)

TOTAL VEHICLE MILES TRAVELED REDUCED (TVMTR) IS A FUNCTION OF:
TOTAL PEAK VEHICLE MILES TRAVELED REDUCED (TPVMTR) AND
TOTAL OFF-PEAK VEHICLE MILES TRAVELED REDUCED (TOPVMTR)

TVMTTR = (TPVMTR) + (TOPVMTR)

LIKELY OUTCOMES

TRIP REDUCTIONS	
TOTAL VEHICLE TRIPS REDUCED (STANDARD)	207,418
TOTAL VEHICLE TRIPS REDUCED (HIGH)	290,385
TOTAL PEAK VEHICLE TRIPS REDUCED (STANDARD)	129,636
TOTAL PEAK VEHICLE TRIPS REDUCED (HIGH)	181,490
TOTAL OFF-PEAK VEHICLE TRIPS REDUCED (STANDARD)	77,782
TOTAL OFF-PEAK VEHICLE TRIPS REDUCED (HIGH)	108,894
VMT REDUCTIONS	
TOTAL REDUCTIONS IN PEAK VMT (STANDARD)	1,721,696
TOTAL REDUCTIONS IN PEAK VMT (HIGH)	2,410,374
TOTAL REDUCTIONS IN OFF-PEAK VMT (STANDARD)	1,033,018
TOTAL REDUCTIONS IN OFF-PEAK VMT (HIGH)	1,446,225
REDUCTIONS IN TOTAL VMT (STANDARD)	2,754,714
REDUCTIONS IN TOTAL VMT (HIGH)	3,856,599

VI) MEASURES REQUIRING LEGISLATIVE ACTION—
PRESENTED FOR ILLUSTRATIVE PURPOSE ONLY

TCM#24 NO-DRIVE DAYS

DESCRIPTION OF MEASURE

100% OF EMPLOYEMENT ARE NOT PERMITTED TO DRIVE ONCE A WEEK

ASSUMPTIONS

PERCENT OF TRIPS REDUCED PER WEEK	100.00%
PERCENT OF TRIPS REDUCED PER DAY	20.00%
TRIPS AFFECTED	32.40%
PERCENT OF TRIPS REDUCED AFTER THE INCREASE IN NON-COMMUT	70.00%

METHODOLOGY

TOTAL VEHICLE TRIPS REDUCED (TVTR) IS A FUNCTION OF:
TOTAL BASLINE COMMUTE VEHICLE TRIPS (TBCVT);
PERCENT OF TRIPS REDUCED PER DAY (PTRPD);
PERCENT OF TRIPS REDUCED AFTER
NON-COMMUTE TRIP INCREASE (PTRANCTI) AND
PERCENT OF RIDERS THAT ARE SOV USERS (PNR)

TVTR = (TBCVT) X (PTRPD) X (PTRANCTI) X (PNR)

TOTAL PEAK VEHICLE TRIPS REDUCED (TPVTR) IS A FUNCTION OF:

TOTAL VEHICLE TRIPS REDUCED (TVTR) AND
PERCENT OF TOTAL TRIPS IN PEAK (PTTIP)

TPVTR = (TVTR) X (POPTT)

TOTAL OFF-PEAK VEHICLE TRIPS REDUCED (TOPVTR) IS A FUNCTION OF:

TOTAL VEHICLE TRIPS REDUCED (TVTR) AND
TOTAL PEAK VEHICLE TRIPS REDUCED (TPVTR)

TOPVTR = (TVTR) — (TPVTR)

TOTAL PEAK VEHICLE MILES TRAVELED REDUCED (TPVMTR)
IS A FUNCTION OF:

TOTAL PEAK VEHICLE TRIPS REDUCED (TPVTR) AND
AVERAGE COMMUTE TRIP LENGTH (ACTL)

TPVMTR = (TPVTR) X (ACTL))

TRANSPORTATION MODEL LACMTA

TOTAL OFF—PEAK VEHICLE MILES TRAVELED REDUCED (TOPVMTR)
IS A FUNCTION OF:

TOTAL OFF—PEAK VEHICLE TRIPS REDUCED (TOPVTR) AND
AVERAGE COMMUTE TRIP LENGTH (ACTL)

TOPVMTR = (TOPVTR) X (ACTL))

TOTAL VEHICLE MILES TRAVELED REDUCED (TVMTR)
IS A FUNCTION OF:

TOTAL PEAK VEHICLE MILES TRAVELED REDUCED (TPVMTR) AND
TOTAL OFF—PEAK VEHICLE MILES TRAVELED REDUCED (TOPVMTR)

TVMTTR = (TPVMTR) + (TOPVMTR)

LIKELY OUTCOMES

TOTAL VEHICLE TRIPS REDUCED	691,392
TOTAL PEAK VEHICLE TRIPS REDUCED	432,120
TOTAL OFF—PEAK VEHICLE TRIPS REDUCED	259,272
PEAK VMT	5,665,094
OFF—PEAK VMT	3,399,057
TOTAL VMT	9,064,151

04—Jan—94

TCM#25 GAS TAX

ASSUMPTIONS

INCREASE GAS TAX	$0.50
ELASTICITY WITH RESPECT TO COST OF GASOLINE (STANDAED)	0.2
ELASTICITY WITH RESPECT TO COST OF GASOLINE (HIGH)	0.25
COST PER GALLON	$1.44
PERCENT CHANGE	34.72%
PERCENT OF EMPLOYEES AFFECTED	50.00%

METHODOLOGY

TOTAL VEHICLE TRIPS REDUCED (TVTR) IS A FUNCTION OF:
COST INCREASE PER GALLON (CIPG);
AVERAGE COMMUTE TRIP LENGTH (ACTL);
TOTAL OUT–OF–POCKET COST PER MILE (TOOPCPM);
ELASTICITY OF AUTO USE WITH RESPECT TO COST (EOAUWRTC);
PERCENT OF ALL TRIPS THAT ARE COMMUTE TRIPS (POCT);
TOTAL BASELINE VEHICLE TRIPS (TBVT);
PERCENT OF NEW RIDERS THAT ARE SOV USERS (PNR);
AVERAGE NON–COMMUTE TRIP LENGTH (ANCTL) AND
PERCENT OF ALL TRIPS THAT ARE NON–COMMUTE (PONCVT)

$$TVTR = \{(CIPM) \times (ACTL) / (TOOPCPM) \times (EOAUWRTC) \times$$
$$\times (POCT) \times (TBVT) \times (PNR)\} +$$
$$+ \{ (CIPM) \times (ANCTL) \times (TOOPCPM) \times (EOAUWRTC) \times$$
$$\times (PONCVT) \times (TBVT) \times (PNR)\}$$

TOTAL PEAK VEHICLE TRIPS REDUCED (TPVTR) IS A FUNCTION OF:
TOTAL VEHICLE TRIPS REDUCED (TVTR);
PERCENT OF TOTAL TRIPS IN PEAK (PTTIP);

$$TPVTR = (TVTR) \times (POPTT)$$

TOTAL OFF–PEAK VEHICLE TRIPS REDUCED (TOPVTR) IS A FUNCTION OF:
TOTAL VEHICLE TRIPS REDUCED (TVTR) AND
TOTAL PEAK VEHICLE TRIPS REDUCED (TPVTR)

$$TOPVTR = (TVTR) - (TPVTR)$$

TOTAL PEAK VEHICLE MILES TRAVELED REDUCED (TPVMTR)
IS A FUNCTION OF:
TOTAL PEAK VEHICLE TRIPS REDUCED (TPVTR);
AVERAGE COMMUTE TRIP LENGTH (ACTL);
VEHICLE MILES REDUCED DUE TO PARK–AND RIDE TRAVEL (PNRVMTR);
PERCENT OF TRIPS LOST DUE TO PARK–AND–RIDE TRAVEL (PTLAPNRT)
WHICH IS (1–PTRAPNRT) AND
AVERAGE TRIP LENGTH SAVED AFTER PARK–AND–RIDE TRAVEL (ATLSAPNRT)
WHICH IS 2/3 OF AVERAGE TRIP LENGTH
AVERAGE NON–COMMUTE TRIP LENGTH (ANCTL)
PERCENT OF COMMUTE TRIPS IN PEAK PERIOD (POCTIP)
PERCENT OF NON–COMMUTE TRIPS IN PEAK PERIOD (PONCTIP)

$$TPVMTR = (TPVTR) \times [((PCPT) \times (ACTL)) +$$
$$+ ((PTLAPNRT) \times (ATLSAPNRT) \times (POCTIP)) +$$
$$+\{ (PONCTIP) \times (ANCTL) \} +$$
$$+ \{((PTLAPNRT) \times (ATLSAPNRT)) \times (PONCTIP)\}] +$$

TOTAL OFF−PEAK VEHICLE MILES TRAVELED REDUCED (TOPVMTR)
IS A FUNCTION OF:

TOTAL OFF−PEAK VEHICLE TRIPS REDUCED (TOPVTR);
AVERAGE COMMUTE TRIP LENGTH (ACTL);
VEHICLE MILES REDUCED AFTER PARK−AND RIDE TRAVEL (PNRVMTR);
PERCENT OF TRIPS LOST AFTER PARK−AND−RIDE TRAVEL (PTLAPNRT)
WHICH IS (1−PTRAPNRT) AND
AVERAGE TRIP LENGTH SAVED AFTER PARK−AND−RIDE TRAVEL (ATLSAPNRT)
WHICH IS 2/3 OF AVERAGE TRIP LENGTH

$$TOPVMTR = (TOPVTR) \times [((PCOPT) \times (ACTL)) +$$
$$+ ((PTLAPNRT) \times (ATLSAPNRT) \times (POCTIOP)) +$$
$$+\{ (PONCTIOP) \times (ANCTL) \} +$$
$$+ \{((PTLAPNRT) \times (ATLSAPNRT)) \times (PONCTIOP)\}] +$$

TOTAL VEHICLE MILES TRAVELED REDUCED (TVMTR)
IS A FUNCTION OF:

TOTAL PEAK VEHICLE MILES TRAVELED REDUCED (TPVMTR) AND
TOTAL OFF−PEAK VEHICLE MILES TRAVELED REDUCED (TOPVMTR)

$$TVMTTR = (TPVMTR) + (TOPVMTR)$$

LIKELY OUTCOMES

	STANDARD	HIGH
TOTAL VEHICLE TRIPS REDUCED	529,838	662,297
PEAK VEHICLE TRIPS REDUCED	211,935	264,919
OFF−PEAK VEHICLE TRIPS REDUCED	317,903	397,378
PEAK VMT	1,866,724	2,333,404
OFF−PEAK VMT	2,285,083	2,856,354
TOTAL VMT	4,151,807	5,189,758

TCM#27 PEAK-HOUR AND OFF-PEAK PRICING

DESCRIPTION OF MEASURE

ON FREEWAYS, CHARGE SINGLE OCCUPANCY VEHICLE $1 IN THE PEAK AND $0.5 DURING OFF-PEAK HOURS

ASSUMPTIONS

PEAK CHARGE	$1.00
OFF-PEAK CHARGE	$0.50
OUT-OF-POCKET COST PER VEHICLE PER PEAK TRIP	$4.00
PERCENT INCREASE OF PEAK TRIP COST	25.00%
OUT-OF-POCKET COST PER VEHICLE PER NON-COMMUTE TRIPS	$2.00
PERCENT INCREASE OF OFF-PEAK TRIP COST	25.00%
ELASTICITY WITH RESPECT TO COST (STANDARD)	0.3
ELASTICITY WITH RESPECT TO COST (HIGH)	0.4
PERCENT OF TRIPS AFFECTED	100.00%
PERCENT OF TRIPS REDUCED AFTER PARK-AND-RIDE TRAVEL	70.00%

METHODOLOGY

TOTAL VEHICLE TRIPS REDUCED (TVTR) IS A FUNCTION OF:

COST INCREASE PER PEAK TRIP;
COST INCREASE PER OFF-PEAK TRIP;
TOTAL OUT-OF-POCKET COST PER COMMUTE TRIP (TOOPCPCT);
TOTAL OUT-OF-POCKET COST PER NON-COMMUTE TRIP (TOOPCPNCT);
ELASTICITY OF AUTO USE WITH RESPECT TO COST (EOAUWRTC);
PERCENT OF ALL TRIPS THAT ARE COMMUTE TRIPS (POCT);
TOTAL BASELINE VEHICLE TRIPS (TBVT);
PERCENT OF NEW RIDERS THAT ARE SOV USERS (PNR);
PERCENT OF ALL TRIPS THAT ARE NON-COMMUTE (PONCVT)
PERCENT OF TRIPS REDUCED AFTER PARK-AND-RIDE TRAVEL (PTRAPNRT)

$$TVTR = \{(CIPCT) / (TOOPCPCT) \times (EOAUWRTC) \times$$
$$\times (POCT) \times (TBVT) \times (PNR) \times (PTRAPNRT)\} +$$
$$+ \{ (CIPNT) / (TOOPCPM) \times (EOAUWRTC) \times$$
$$\times (PONCVT) \times (TBVT) \times (PNR) \times (PTRAPNRT)\}$$

TOTAL PEAK VEHICLE TRIPS REDUCED (TPVTR) IS A FUNCTION OF:

TOTAL VEHICLE TRIPS REDUCED (TVTR);
PERCENT OF TOTAL TRIPS IN PEAK (PTTIP);

$$TPVTR = (TVTR) \times (POPTT)$$

TOTAL OFF-PEAK VEHICLE TRIPS REDUCED (TOPVTR) IS A FUNCTION OF:

TOTAL VEHICLE TRIPS REDUCED (TVTR) AND
TOTAL PEAK VEHICLE TRIPS REDUCED (TPVTR)

$$TOPVTR = (TVTR) - (TPVTR)$$

TOTAL PEAK VEHICLE MILES TRAVELED REDUCED (TPVMTR) IS A FUNCTION OF:
TOTAL PEAK VEHICLE TRIPS REDUCED (TPVTR);
AVERAGE COMMUTE TRIP LENGTH (ACTL);
VEHICLE MILES REDUCED DUE TO PARK—AND RIDE TRAVEL (PNRVMTR);
PERCENT OF TRIPS LOST DUE TO PARK—AND—RIDE TRAVEL (PTLAPNRT)
WHICH IS (1—PTRAPNRT) AND
AVERAGE TRIP LENGTH SAVED AFTER PARK—AND—RIDE TRAVEL (ATLSAPNRT)
WHICH IS 2/3 OF AVERAGE TRIP LENGTH
AVERAGE NON—COMMUTE TRIP LENGTH (ANCTL)
PERCENT OF COMMUTE TRIPS IN PEAK PERIOD (POCTIP)
PERCENT OF NON—COMMUTE TRIPS IN PEAK PERIOD (PONCTIP)

$$TPVMTR = (TPVTR) \times [((PCPT) \times (ACTL)) +$$
$$+ ((PTLAPNRT) \times (ATLSAPNRT) \times (POCTIP)) +$$
$$+\{ (PONCTIP) \times (ANCTL) \} +$$
$$+ \{((PTLAPNRT) \times (ATLSAPNRT)) \times (PONCTIP)\}] +$$

TOTAL OFF—PEAK VEHICLE MILES TRAVELED REDUCED (TOPVMTR) IS A FUNCTION OF:
TOTAL OFF—PEAK VEHICLE TRIPS REDUCED (TOPVTR);
AVERAGE COMMUTE TRIP LENGTH (ACTL);
VEHICLE MILES REDUCED AFTER PARK—AND RIDE TRAVEL (PNRVMTR);
PERCENT OF TRIPS LOST AFTER PARK—AND—RIDE TRAVEL (PTLAPNRT)
WHICH IS (1—PTRAPNRT) AND
AVERAGE TRIP LENGTH SAVED AFTER PARK—AND—RIDE TRAVEL (ATLSAPNRT)
WHICH IS 2/3 OF AVERAGE TRIP LENGTH

$$TOPVMTR = (TOPVTR) \times [((PCOPT) \times (ACTL)) +$$
$$+ ((PTLAPNRT) \times (ATLSAPNRT) \times (POCTIOP)) +$$
$$+\{ (PONCTIOP) \times (ANCTL) \} +$$
$$+ \{((PTLAPNRT) \times (ATLSAPNRT)) \times (PONCTIOP)\}] +$$

TOTAL VEHICLE MILES TRAVELED REDUCED (TVMTR) IS A FUNCTION OF:
TOTAL PEAK VEHICLE MILES TRAVELED REDUCED (TPVMTR) AND
TOTAL OFF—PEAK VEHICLE MILES TRAVELED REDUCED (TOPVMTR)

$$TVMTTR = (TPVMTR) + (TOPVMTR)$$

LIKELY OUTCOMES

	STANDARD	HIGH
TOTAL COMMUTE PEAK TRIPS REDUCED	48,614	64,818
TOTAL NON—COMMUTE PEAK TRIP REDUCTIONS	60,957	81,276
TOTAL OFF—PEAK COMMUTE TRIPS REDUCED	17,112	22,816
TOTAL OFF—PEAK NON—COMMUTE TRIPS REDUCED	126,791	169,055
TOTAL VEHICLE TRIPS REDUCED	253,474	337,965
TOTAL PEAK VEHICLE TRIPS REDUCED	109,571	146,094
TOTAL OFF—PEAK VEHICLE TRIPS REDUCED	143,903	191,871
TOTAL PEAK VMT	1,169,759	1,559,679
TOTAL OFF—PEAK VMT	1,146,987	1,529,317
TOTAL VMT	2,316,746	3,088,995

04—Jan—94

TCM PACKAGES

**TCM PACKAGE #1: TRANSIT SERVICE INCREASE, CHILDCARE FACILITIES
AT MAJOR TRANSIT STATIONS, AND FEEDER SERVCES
TO AND FROM MAJOR TRANSIT SERVICES**

DESCRIPTION OF MEASURE

Improvements to the transit systems in terms of an increase in route
miles combined with childcare facilities at major transit stations
and feeder services to and from major stations

ASSUMPTIONS

THIS TCM WILL IMPLEMENTED IN SELECTED AREAS IN THE COUNTY
ACCORDING TO THE FOLLOWING CRITERION:

1) PRESENT TRANSIT ACCESSIBILITY
2) PARKING AVAILABILITY
3) MODE SPLIT
4) INCOME LEVEL
5) ETHNICITY
6) EMPLOYMENT AND POPULATION DENSITY

ELASTICITY OF TRANSIT USE WITH RESPECT TO SERVICE	0.60
PERCENT INCREASE IN SERVICE/HEADWAYS	10.00%
PERCENT INCREASE IN RIDERSHIP	6.00%
PERCENT OF EMPLOYEES AFFECTED	30.00%
AVERAGE DAILY INCREASE IN PARKING CHARGE	$3.00
PERCENT CHANGE IN COST	20.00%
PERCENT OF TRIPS REDUCED AFTER THE EFFECT OF CIRCULATION OR	70.00%
DRIVE ALONE SHARE	74.20%
PERCENT OF COST OF A MONTHLY PASS SUBSIDIZED	50.00%
PERCENT OF RIDERS FROM DRIVE ALONE MODE	60.00%
PERCENT OF TRIPS REDUCED AFTER CIRCULATION	70.00%

METHODOLOGY

TOTAL VEHICLE TRIPS REDUCED (TVTR) IS A FUNCTION OF:

AN ESTIMATED INCREASE IN RIDER SHIP (ERI);
TOTAL BASELINE PERSON TRIPS (TBPT);
PERCENT OF ALL TRIPS THAT ARE TRANSIT (PTT);
PERCENT OF NEW RIDERS THAT ARE SOV USERS (PNR);
PERCENT OF TRIPS REDUCED AFTER PARK–AND RIDE TRAVEL (PTRAPNRT);
PERCENT OF EMPLOYEES AFFECTED (PEA);

$$TTR = (ERI) \times (TBPT) \times (PTT) \times (PNR) \times (PTRAPNRT) \times (PEA) +$$
$$+ (ERI) \times (TCBVT) \times (PNR) \times (PEA)$$

TOTAL PEAK VEHICLE TRIPS REDUCED (TPVTR) IS A FUNCTION OF:

TOTAL TRIPS REDUCED (TTR);
TRANSIT COMMUTE TRIPS SHARE (TCTS);
PERCENT OF COMMUTE TRIPS IN PEAK (PCPT);
TRANSIT NON-COMMUTE TRIPS SHARE (TNCTS) AND
PERCENT OF NON-COMMUTE TRIPS IN PEAK (PNCPT)

$$TPVTR = (TTR) \times [((TCTS) \times (PCPT)) + ((TNCTS) \times (PNCPT))]$$

TOTAL OFF-PEAK VEHICLE TRIPS REDUCED (TOPVTR) IS A FUNCTION OF:
TOTAL TRIPS REDUCED (TTR) AND
TOTAL PEAK TRIPS REDUCED (PTR)

$$TOPVTR = (TTR) - (TPTR)$$

TOTAL PEAK VEHICLE MILES TRAVELED REDUCED (TPVMTR)
IS A FUNCTION OF:
TOTAL PEAK VEHICLE TRIPS REDUCED (TPVTR);
PERCENT OF COMMUTE TRIPS IN THE PEAK (PCPT);
AVERAGE COMMUTE TRIP LENGTH (ACTL);
PERCENT OF PEAK TRIPS THAT ARE NON-COMMUTE (PNCPT);
AVERAGE NON-COMMUTE TRIP LENGTH (ANCTL);
VEHICLE MILES REDUCED DUE TO PARK-AND RIDE TRAVEL (PNRVMTR);
PERCENT OF TRIPS LOST DUE TO PARK-AND-RIDE TRAVEL (PTLAPNRT)
WHICH IS (1-PTRAPNRT) AND
AVERAGE TRIP LENGTH SAVED AFTER PARK-AND-RIDE TRAVEL (ATLSAPNRT)
WHICH IS 2/3 OF AVERAGE TRIP LENGTH

$$TPVMTR = (TPVTR) \times [((PCPT) \times (ACTL)) +$$
$$+ ((PNCPT) \times (ANCTL)) +$$
$$+ ((PTLAPNRT) \times (ATLSAPNRT))]$$

TOTAL OFF-PEAK VEHICLE MILES TRAVELED REDUCED (TOPVMTR)
IS A FUNCTION OF:
TOTAL OFF-PEAK VEHICLE TRIPS REDUCED (TOPVTR);
PERCENT OF OFF-PEAK TRIPS THAT ARE COMMUTE (PCOPT);
AVERAGE COMMUTE TRIP LENGTH (ACTL);
PERCENT OF OFF-PEAK TRIPS THAT ARE NON-COMMUTE TRIPS (PNCOPT);
AVERAGE NON-COMMUTE TRIP LENGTH (ANCTL);
VEHICLE MILES REDUCED DUE TO PARK-AND RIDE TRAVEL (PNRVMTR);
PERCENT OF TRIPS LOST DUE TO PARK-AND-RIDE TRAVEL (PTLAPNRT)
WHICH IS (1-PTRAPNRT) AND
AVERAGE TRIP LENGTH SAVED AFTER PARK-AND-RIDE TRAVEL (ATLSAPNRT)
WHICH IS 2/3 OF AVERAGE TRIP LENGTH

$$TOPVMTR = (TOPVTR) \times [((PCOPT) \times (ACTL)) +$$
$$+ ((PNCOPT) \times (ANCTL)) +$$
$$+ ((PTLAPNRT) \times (ATLSAPNRT))]$$

TOTAL VEHICLE MILES TRAVELED REDUCED (TVMTR)
IS A FUNCTION OF:

TOTAL PEAK VEHICLE MILES TRAVELED REDUCED (TPVMTR) AND
TOTAL OFF-PEAK VEHICLE MILES TRAVELED REDUCED (TOPVMTR)

$$TVMTTR = (TPVMTR) + (TOPVMTR)$$

TRANSPORTATION MODEL LACMTA

LIKELY OUTCOMES

TRIP REDUCTIONS	
TOTAL VEHICLE TRIPS REDUCED (STANDARD)	14,770.88
TOTAL VEHICLE TRIPS REDUCED (HIGH)	16,001.79
TOTAL PEAK VEHICLE TRIPS REDUCED (STANDARD)	9,231.80
TOTAL PEAK VEHICLE TRIPS REDUCED (HIGH)	10,001.12
TOTAL OFF–PEAK VEHICLE TRIPS REDUCED (STANDARD)	5,539.08
TOTAL OFF–PEAK VEHICLE TRIPS REDUCED (HIGH)	6,000.67
VMT REDUCTIONS	
TOTAL REDUCTIONS IN PEAK VMT (STANDARD)	86,972.61
TOTAL REDUCTIONS IN PEAK VMT (HIGH)	94,220.33
TOTAL REDUCTIONS IN OFF–PEAK VMT (STANDARD)	86,147.59
TOTAL REDUCTIONS IN OFF–PEAK VMT (HIGH)	93,326.56
REDUCTIONS IN TOTAL VMT (STANDARD)	173,120.20
REDUCTIONS IN TOTAL VMT (HIGH)	187,546.88

TRANSPORTATION MODEL LACMTA

TCM PACKAGE #2 RIDSHARING FOR SMALL EMPLOYERS, PREFERENTIAL PARKING FOR CARPOOLERS AND VANPOOLERS, PASSENGER LOADING AREA AND GRH PROGRAM

ASSUMPTIONS

PERCENT INCREASE IN THE NON–DRIVE ALONE MODE	7.00%
PERCENT INCREASE IN THE NON–DRIVE ALONE SHARE (HIGH)	9.00%
PERCENT OF TRIPS REDUCED AFTER CIRCULATION	70.00%
PERCENT OF DRIVE ALONE MODE	74.20%
PERCENT OF EMPLOYEES AFFECTED	20.00%
AVERAGE SIZE OF CARPOOL	2.37
PARKING CHARGE FOR CARPOOLS AND VANPOOLS	$0.00

METHODOLOGY

TOTAL VEHICLE TRIPS REDUCED (TVTR) IS A FUNCTION OF:
AN ESTIMATED INCREASE IN RIDER SHIP (ERI);
TOTAL COMMUTE BASELINE VEHICLE TRIPS (TCBVT);
PERCENT OF NEW RIDERS THAT ARE SOV USERS (PNR);
PERCENT OF TRIPS REDUCED AFTER PARK–AND RIDE TRAVEL (PTRAPNRT);
PERCENT OF EMPLOYEES AFFECTED (PEA);
PERCENT OF PERSON TRIPS AFFECTED (PPTA)
PERCENT OF PARKING SPACES AFFECTED (PPSA)

$$TVTR = (ERI) \times (TCBVT) \times (PNR) \times (PTRAPNRT) \times (PEA) +$$
$$+ (ERI) \times (TCBVT) \times (PNR) \times (PTRAPNRT) \times (PPTA) +$$
$$+ (ERI) \times (TCBVT) \times (PNR) \times (PPSA) / AVO$$

TOTAL PEAK VEHICLE TRIPS REDUCED (TPVTR) IS A FUNCTION OF:
TOTAL VEHICLE TRIPS REDUCED (TVTR);
PERCENT OF COMMUTE TRIPS IN PEAK (PCPT);

$$TPVTR = (TVTR) \times (PCPT))$$

TOTAL OFF–PEAK VEHICLE TRIPS REDUCED (TOPVTR) IS A FUNCTION OF:
TOTAL VEHICLE TRIPS REDUCED (TVTR) AND
TOTAL PEAK VEHICLE TRIPS REDUCED (TPVTR)

$$TOPVTR = (TVTR) - (TPVTR)$$

TOTAL PEAK VEHICLE MILES TRAVELED REDUCED (TPVMTR) IS A FUNCTION OF:
TOTAL PEAK VEHICLE TRIPS REDUCED (TPVTR);
AVERAGE COMMUTE TRIP LENGTH (ACTL);
VEHICLE MILES REDUCED DUE TO PARK–AND RIDE TRAVEL (PNRVMTR);
PERCENT OF TRIPS LOST DUE TO PARK–AND–RIDE TRAVEL (PTLAPNRT)
WHICH IS (1–PTRAPNRT) AND
AVERAGE TRIP LENGTH SAVED AFTER PARK–AND–RIDE TRAVEL (ATLSAPNRT)
WHICH IS 2/3 OF AVERAGE TRIP LENGTH

$$TPVMTR = (TPVTR) \times (ACTL) +$$
$$+ (TPVTR) \times ((PTLAPNRT) \times (ATLSAPNRT))$$

TOTAL OFF–PEAK VEHICLE MILES TRAVELED REDUCED (TOPVMTR)
IS A FUNCTION OF:

TOTAL OFF–PEAK VEHICLE TRIPS REDUCED (TOPVTR);
AVERAGE COMMUTE TRIP LENGTH (ACTL);
VEHICLE MILES REDUCED AFTER PARK–AND RIDE TRAVEL (PNRVMTR);
PERCENT OF TRIPS LOST AFTER PARK–AND–RIDE TRAVEL (PTLAPNRT)
WHICH IS (1–PTRAPNRT) AND
AVERAGE TRIP LENGTH SAVED AFTER PARK–AND–RIDE TRAVEL (ATLSAPNRT)
WHICH IS 2/3 OF AVERAGE TRIP LENGTH

$$\text{TOPVMTR} = (\text{TOPVTR}) \times (\text{ACTL}) +$$
$$+ (\text{TPVTR}) \times ((\text{PTLAPNRT}) \times (\text{ATLSAPNRT}))$$

TOTAL VEHICLE MILES TRAVELED REDUCED (TVMTR)
IS A FUNCTION OF:

TOTAL PEAK VEHICLE MILES TRAVELED REDUCED (TPVMTR) AND
TOTAL OFF–PEAK VEHICLE MILES TRAVELED REDUCED (TOPVMTR)

$$\text{TVMTTR} = (\text{TPVMTR}) + (\text{TOPVMTR})$$

LIKELY OUTCOMES

TRIP REDUCTIONS	
TOTAL VEHICLE TRIPS REDUCED (STANDARD)	6,637
TOTAL VEHICLE TRIPS REDUCED (HIGH)	8,297
TOTAL PEAK VEHICLE TRIPS REDUCED (STANDARD)	4,148
TOTAL PEAK VEHICLE TRIPS REDUCED (HIGH)	5,185
TOTAL OFF–PEAK VEHICLE TRIPS REDUCED (STANDARD)	2,489
TOTAL OFF–PEAK VEHICLE TRIPS REDUCED (HIGH)	3,111
VMT REDUCTIONS	
TOTAL REDUCTIONS IN PEAK VMT (STANDARD)	205,358
TOTAL REDUCTIONS IN PEAK VMT (HIGH)	256,698
TOTAL REDUCTIONS IN OFF–PEAK VMT (STANDARD)	338,981
TOTAL REDUCTIONS IN OFF–PEAK VMT (HIGH)	423,726
REDUCTIONS IN TOTAL VMT (STANDARD)	544,339
REDUCTIONS IN TOTAL VMT (HIGH)	680,424

TCM PACKAGE #3 BICYCLE AND PEDESTRAIN IMPROVEMENT,
BICYCLING RACKS AND LOCKERS AT PARK-AND-RIDE LOTS AND AT
MAJOR TRANSIT FACILITIES AND AGRESSIVE MARKETING FOR WALKING
AND BICYCLING

ASSUMPTIONS

PERCENT OF EMPLOYEES AFFECTED	8.80%
PERCENT INCREASE IN BICYCLISTS AND WALKERS (STANDARD)	2.50%
PERCENT INCREASE IN BICYCLISTS AND WALKERS (HIGH)	3.80%
DRIVE ALONE MODE SHARE	74.20%

METHODOLOGY

TOTAL VEHICLE TRIPS REDUCED (TVTR) IS A FUNCTION OF:

AN ESTIMATED INCREASE IN RIDERSHIP (ERI);
TOTAL COMMUTE BASELINE VEHICLE TRIPS (TCBVT);
PERCENT OF NEW RIDERS THAT ARE SOV USERS (PNR);
PERCENT OF EMPLOYEES AFFECTED (PEA)

TVTR = (ERI) X (TCBVT) X (PNR) X (PEA)

TOTAL PEAK VEHICLE TRIPS REDUCED (TPVTR) IS A FUNCTION OF:

TOTAL VEHICLE TRIPS REDUCED (TVTR);
PERCENT OF COMMUTE TRIPS IN PEAK (PCPT);

TPVTR = (TVTR) X (PCPT))

TOTAL OFF-PEAK VEHICLE TRIPS REDUCED (TOPVTR) IS A FUNCTION OF:

TOTAL VEHICLE TRIPS REDUCED (TVTR) AND
TOTAL PEAK VEHICLE TRIPS REDUCED (TPVTR)

TOPVTR = (TVTR) − (TPVTR)

TOTAL PEAK VEHICLE MILES TRAVELED REDUCED (TPVMTR)
IS A FUNCTION OF:

TOTAL PEAK VEHICLE TRIPS REDUCED (TPVTR);
AVERAGE COMMUTE TRIP LENGTH (ACTL);

TPVMTR = (TPVTR) X (ACTL)

TOTAL OFF-PEAK VEHICLE MILES TRAVELED REDUCED (TOPVMTR)
IS A FUNCTION OF:

TOTAL OFF-PEAK VEHICLE TRIPS REDUCED (TOPVTR);
AVERAGE COMMUTE TRIP LENGTH (ACTL);

TOPVMTR = (TOPVTR) X (ACTL)

TOTAL VEHICLE MILES TRAVELED REDUCED (TVMTR)
IS A FUNCTION OF:

TOTAL PEAK VEHICLE MILES TRAVELED REDUCED (TPVMTR) AND
TOTAL OFF–PEAK VEHICLE MILES TRAVELED REDUCED (TOPVMTR)

TVMTTR = (TPVMTR) + (TOPVMTR)

LIKELY OUTCOMES

TRIP REDUCTIONS	
TOTAL VEHICLE TRIPS REDUCED (STANDARD)	10,865
TOTAL VEHICLE TRIPS REDUCED (HIGH)	21,729
TOTAL PEAK VEHICLE TRIPS REDUCED (STANDARD)	6,790
TOTAL PEAK VEHICLE TRIPS REDUCED (HIGH)	13,581
TOTAL OFF–PEAK VEHICLE TRIPS REDUCED (STANDARD)	4,074
TOTAL OFF–PEAK VEHICLE TRIPS REDUCED (HIGH)	8,149
TRIP REDUCTIONS	
TOTAL REDUCTIONS IN PEAK VMT (STANDARD)	20,371
TOTAL REDUCTIONS IN PEAK VMT (HIGH)	40,743
TOTAL REDUCTIONS IN OFF–PEAK VMT (STANDARD)	12,223
TOTAL REDUCTIONS IN OFF–PEAK VMT (HIGH)	24,446
REDUCTIONS IN TOTAL VMT (STANDARD)	32,594
REDUCTIONS IN TOTAL VMT (HIGH)	65,188

TRANSPORTATION MODEL

TCM PACKAGE #4 TRIP REDUCTION ORDINANCE FOR SMALL EMPLOYE
PREFERENTIAL PARKING FOR RIDESHARERS, TMA/TMO
FEEDER SERVICE TO TRANSIT, AND TRANSPORTATION LOADING AREA

ASSUMPTIONS

BASE AVERAGE VEHICLE RIDERSHIP	1.19
EXPECTED AVERAGE VEHICLE RIDERSHIP (STANDARD)	1.25
EXPECTED AVERAGE VEHICLE RIDERSHIP (HIGH)	1.35
PERCENT INCREASE IN NON–DRIVE ALONE MODE (STANDARD)	5.04%
PERCENT INCREASE IN NON–DRIVE ALONE MODE (HIGH)	13.45%
PERCENT OF EMPLOYEES AFFECTED	20.00%
PERCENT OF TRIP REDUCTIONS AFTER CIRCULATION	70.00%

METHODOLOGY

TOTAL VEHICLE TRIPS REDUCED (TVTR) IS A FUNCTION OF:
AN ESTIMATED INCREASE IN RIDERSHIP (ERI);
TOTAL COMMUTE BASELINE VEHICLE TRIPS (TCBVT);
PERCENT OF NEW RIDERS THAT ARE SOV USERS (PNR);
PERCENT OF TRIPS REDUCED AFTER PARK–AND–RIDE TRAVEL (PTRAPNRT);
PERCENT OF EMPLOYEES AFFECTED (PEA) AND
ESTIMATED PARTICIPATION RATE (EPR)

$$TVTR = (ERI) \times (TCBVT) \times (PNR) \times (PTRAPNRT) \times (PEA) +$$
$$+ (ERI) \times (TCBVT) \times (PNR) \times (PEA) +$$
$$+ (ERI) \times (TCBVT) \times (PNR) \times (PTRAPNRT) \times (PPTA) +$$
$$+ (ERI) \times (TCBVT) \times (PNR) \times (PTRAPNRT) \times$$
$$\times (PEA) \times (EPR)$$

TOTAL PEAK VEHICLE TRIPS REDUCED (TPVTR) IS A FUNCTION OF:
TOTAL VEHICLE TRIPS REDUCED (TVTR);
PERCENT OF COMMUTE TRIPS IN PEAK (PCPT);

$$TPVTR = (TVTR) \times (PCPT))$$

TOTAL OFF–PEAK VEHICLE TRIPS REDUCED (TOPVTR) IS A FUNCTION OF:
TOTAL VEHICLE TRIPS REDUCED (TVTR) AND
TOTAL PEAK VEHICLE TRIPS REDUCED (TPVTR)

$$TOPVTR = (TVTR) - (TPVTR)$$

TOTAL PEAK VEHICLE MILES TRAVELED REDUCED (TPVMTR) IS A FUNCTION OF:
TOTAL PEAK VEHICLE TRIPS REDUCED (TPVTR);
AVERAGE COMMUTE TRIP LENGTH (ACTL);
VEHICLE MILES REDUCED DUE TO PARK–AND RIDE TRAVEL (PNRVMTR);
PERCENT OF TRIPS LOST DUE TO PARK–AND–RIDE TRAVEL (PTLAPNRT)
WHICH IS (1–PTRAPNRT) AND
AVERAGE TRIP LENGTH SAVED AFTER PARK–AND–RIDE TRAVEL (ATLSAPNRT)
WHICH IS 2/3 OF AVERAGE TRIP LENGTH

$$TPVMTR = (TPVTR) \times (ACTL) +$$
$$+ (TPVTR) \times ((PTLAPNRT) \times (ATLSAPNRT))$$

TOTAL OFF–PEAK VEHICLE MILES TRAVELED REDUCED (TOPVMTR)
IS A FUNCTION OF:

TOTAL OFF–PEAK VEHICLE TRIPS REDUCED (TOPVTR);
AVERAGE COMMUTE TRIP LENGTH (ACTL);
VEHICLE MILES REDUCED AFTER PARK–AND RIDE TRAVEL (PNRVMTR);
PERCENT OF TRIPS LOST AFTER PARK–AND–RIDE TRAVEL (PTLAPNRT)
WHICH IS (1–PTRAPNRT) AND
AVERAGE TRIP LENGTH SAVED AFTER PARK–AND–RIDE TRAVEL (ATLSAPNRT)
WHICH IS 2/3 OF AVERAGE TRIP LENGTH

TOPVMTR = (TOPVTR) X (ACTL) +
+ (TPVTR) X ((PTLAPNRT) X (ATLSAPNRT))

TOTAL VEHICLE MILES TRAVELED REDUCED (TVMTR)
IS A FUNCTION OF:

TOTAL PEAK VEHICLE MILES TRAVELED REDUCED (TPVMTR) AND
TOTAL OFF–PEAK VEHICLE MILES TRAVELED REDUCED (TOPVMTR)

TVMTTR = (TPVMTR) + (TOPVMTR)

LIKELY OUTCOMES

TRIP REDUCTIONS	
TOTAL VEHICLE TRIPS REDUCED (STANDARD)	60,246
TOTAL VEHICLE TRIPS REDUCED (HIGH)	80,328
TOTAL PEAK VEHICLE TRIPS REDUCED (STANDARD)	37,654
TOTAL PEAK VEHICLE TRIPS REDUCED (HIGH)	50,205
TOTAL OFF–PEAK VEHICLE TRIPS REDUCED (STANDARD)	22,592
TOTAL OFF–PEAK VEHICLE TRIPS REDUCED (HIGH)	30,123
VMT REDUCTIONS	
TOTAL REDUCTIONS IN PEAK VMT (STANDARD)	486,383
TOTAL REDUCTIONS IN PEAK VMT (HIGH)	648,511
TOTAL REDUCTIONS IN OFF–PEAK VMT (STANDARD)	281,707
TOTAL REDUCTIONS IN OFF–PEAK VMT (HIGH)	375,609
REDUCTIONS IN TOTAL VMT (STANDARD)	768,090
REDUCTIONS IN TOTAL VMT (HIGH)	1,024,120

TCM PACAGE #5.1 (SCENARIO #1): TRANSIT SERVICE INCREASE, TRANSIT SUBSIDY AND PARKING MANAGEMENT

DESCRIPTION OF MEASURE

Improvements to the transit system in terms of an increase in route miles combined with fare reductions and parking pricing increase.

ASSUMPTIONS

THIS TCM WILL BE IMPLEMENTED IN SELECTED AREAS IN THE COUNTY ACCORDING TO THE FOLLOWING CRITERION:

1) PRESENT TRANSIT ACCESSIBILITY
2) PARKING AVAILABILITY
3) MODE SPLIT
4) INCOME LEVEL
5) ETHNICITY
6) EMPLOYMENT AND POPULATION DENSITY

ELASTICITY OF TRANSIT USE WITH RESPECT TO SERVICE	0.60
ELASTICITY OF SPEED WITH RESPECT TO VOLUME (PEAK)	0.63
ELASTICITY OF SPEED WITH RESPECT TO VOLUME (OFF-PEAK)	0.25
PERCENT INCREASE IN SERVICE/HEADWAYS	10.00%
PERCENT INCREASE IN RIDERSHIP	6.00%
PERCENT OF EMPLOYEES AFFECTED	30.00%
AVERAGE DAILY INCREASE IN PARKING CHARGE	$0.50
PERCENT CHANGE IN COST	5.00%
PERCENT OF TRIPS REDUCED AFTER THE EFFECT OF PARK-AND-RIDE TRAVEL	70.00%
DRIVE ALONE SHARE	74.20%
PERCENT OF COST OF A MONTHLY PASS SUBSIDIZED	50.00%
PERCENT OF RIDERS FROM DRIVE ALONE MODE	60.00%
PERCENT OF TRIPS REDUCED AFTER CIRCULATION	70.00%
ELASTICITY WITH RESPECT TO TRANSIT COST (HIGH)	0.45
ELASTICITY OF PARKING DEMAND DEMAND WITH RESPECT TO COST FOR COMMUTE TRIPS (HIGH)	0.28

METHODOLOGY

SEE TCM PACKAGE # 5 (SCENARIO3)

TRANSPORTATION MODEL LACMTA

LIKELY OUTCOMES

	NO PARKING EFFECT	WITH PARKING EFFECT
TRIP REDUCTIONS		
TOTAL VEHICLE TRIPS REDUCED (STANDARD)	59,011	64,196
TOTAL VEHICLE TRIPS REDUCED (HIGH)	88,517	96,294
TOTAL PEAK VEHICLE TRIPS REDUCED (STANDARD)	36,228	39,469
TOTAL PEAK VEHICLE TRIPS REDUCED (HIGH)	54,342	59,203
TOTAL OFF-PEAK VEHICLE TRIPS REDUCED (STANDARD)	22,783	24,727
TOTAL OFF-PEAK VEHICLE TRIPS REDUCED (HIGH)	34,175	37,091
VMT REDUCTIONS	.	
TOTAL REDUCTIONS IN PEAK VMT (STANDARD)	489,844	532,886
TOTAL REDUCTIONS IN PEAK VMT (HIGH)	734,766	799,329
TOTAL REDUCTIONS IN OFF-PEAK VMT (STANDARD)	310,888	336,713
TOTAL REDUCTIONS IN OFF-PEAK VMT (HIGH)	466,332	505,070
REDUCTIONS IN TOTAL VMT (STANDARD)	800,732	869,599
REDUCTIONS IN TOTAL VMT (HIGH)	1,201,098	1,304,399

TCM PACAGE #5.2 (SCENARIO2)— TRANSIT SERVICE INCREASE, TRANSIT SUBSIDY AND PARKING MANAGEMENT

DESCRIPTION OF MEASURE

Improvements to the transit systems in terms of an increase in route miles combined with fare reductions and parking pricing increase.

ASSUMPTIONS

THIS TCM WILL BE IMPLEMENTED IN SELECTED AREAS IN THE COUNTY
ACCORDING TO THE FOLLOWING CRITERION:

1) PRESENT TRANSIT ACCESSIBILITY
2) PARKING AVAILABILITY
3) MODE SPLIT
4) INCOME LEVEL
5) ETHNICITY
6) EMPLOYMENT AND POPULATION DENSITY

ELASTICITY OF TRANSIT USE WITH RESPECT TO SERVICE	0.60
ELASTICITY OF SPEED WITH RESPECT TO VOLUME (PEAK)	0.63
ELASTICITY OF SPEED WITH RESPECT TO VOLUME (OFF−PEAK)	0.25
PERCENT INCREASE IN SERVICE/HEADWAYS	10.00%
PERCENT INCREASE IN RIDERSHIP	6.00%
PERCENT OF EMPLOYEES AFFECTED	30.00%
AVERAGE DAILY INCREASE IN PARKING CHARGE	$1.00
PERCENT CHANGE IN COST	10.00%
PERCENT OF TRIPS REDUCED AFTER THE EFFECT OF PARK−AND−RIDE TRAVEL	70.00%
DRIVE ALONE SHARE	74.20%
PERCENT OF COST OF A MONTHLY PASS SUBSIDIZED	50.00%
PERCENT OF RIDERS FROM DRIVE ALONE MODE	60.00%
PERCENT OF TRIPS REDUCED AFTER CIRCULATION	70.00%
ELASTICITY WITH RESPECT TO TRANSIT COST (HIGH)	0.45
ELASTICITY OF PARKING DEMAND WITH RESPECT TO COST FOR COMMUTE TRIPS (HIGH)	0.28

METHODOLOGY

SEE TCM PACKAGE #5 (SCENARIO3)

TRANSPORTATION MODEL   LACMTA

LIKELY OUTCOMES

	NO PARKING EFFECT	WITH PARKING EFFECT
TRIP REDUCTIONS		
TOTAL VEHICLE TRIPS REDUCED (STANDARD)	78,352	93,908
TOTAL VEHICLE TRIPS REDUCED (HIGH)	117,528	140,862
TOTAL PEAK VEHICLE TRIPS REDUCED (STANDARD)	48,208	57,931
TOTAL PEAK VEHICLE TRIPS REDUCED (HIGH)	72,312	86,896
TOTAL OFF−PEAK VEHICLE TRIPS REDUCED (STANDARD)	30,144	35,978
TOTAL OFF−PEAK VEHICLE TRIPS REDUCED (HIGH)	45,216	53,966
VMT REDUCTIONS		
TOTAL REDUCTIONS IN PEAK VMT (STANDARD)	650,396	779,523
TOTAL REDUCTIONS IN PEAK VMT (HIGH)	975,594	1,169,285
TOTAL REDUCTIONS IN OFF−PEAK VMT (STANDARD)	410,050	487,526
TOTAL REDUCTIONS IN OFF−PEAK VMT (HIGH)	615,075	731,289
REDUCTIONS IN TOTAL VMT (STANDARD)	1,060,446	1,267,049
REDUCTIONS IN TOTAL VMT (HIGH)	1,590,669	1,900,574

TCM PACKAGE #5.3– TRANSIT SERVICE INCREASE, TRANSIT SUBSIDY AND PARKING MANAGEMENT

DESCRIPTION OF MEASURE

Improvements to the transit system in terms of an increase in route miles combined with fare reductions and parking pricing increase.

ASSUMPTIONS

THIS TCM WILL BE IMPLEMENTED IN SELECTED AREAS IN THE COUNTY ACCORDING TO THE FOLLOWING CRITERION:

1) PRESENT TRANSIT ACCESSIBILITY
2) PARKING AVAILABILITY
3) MODE SPLIT
4) INCOME LEVEL
5) ETHNICITY
6) EMPLOYMENT AND POPULATION DENSITY

ELASTICITY OF TRANSIT WITH RESPECT TO SERVICE	0.60
ELASTICITY OF SPEED WITH RESPECT TO VOLUME (PEAK)	0.63
ELASTICITY OF SPEED WITH RESPECT TO VOLUME (OFF–PEAK)	0.25
PERCENT INCREASE IN SERVICE/HEADWAYS	10.00%
PERCENT INCREASE IN RIDERSHIP	6.00%
PERCENT OF EMPLOYEES AFFECTED	30.00%
AVERAGE DAILY INCREASE IN PARKING CHARGE	$3.00
PERCENT CHANGE IN COST	20.00%
PERCENT OF TRIPS REDUCED AFTER THE EFFECT OF PARK–AND–RIDE TRAVEL	70.00%
DRIVE ALONE SHARE	74.20%
PERCENT OF COST OF A MONTHLY PASS SUBSIDIZED	50.00%
PERCENT OF RIDERS FROM DRIVE ALONE MODE	60.00%
PERCENT OF TRIPS REDUCED AFTER CIRCULATION	70.00%
ELASTICITY WITH RESPECT TO TRANSIT COST (HIGH)	0.45
ELASTICITY OF PARKING DEMAND WITH RESPECT TO COST FOR COMMUTE TRIPS (HIGH)	0.28

METHODOLOGY

TOTAL VEHICLE TRIPS REDUCED (TVTR) IS A FUNCTION OF:
AN ESTIMATED INCREASE IN RIDERSHIP (ERI);
TOTAL BASELINE PERSON TRIPS (TBPT);
PERCENT OF ALL TRIPS THAT ARE TRANSIT (PTT);
PERCENT OF NEW RIDERS THAT ARE SOV USERS (PNR);
PERCENT OF TRIPS REDUCED AFTER PARK–AND RIDE TRAVEL (PTRAPNRT);
PERCENT OF EMPLOYEES AFFECTED (PEA);
PERCENT INCREASE IN PARKING CHARGE AND
SUBSIDY AMOUNT

$$TTR = (ERI) \times (TBPT) \times (PTT) \times (PNR) \times (PTRAPNRT) \times (PEA) +$$
$$+ (ERI) \times (TCBPT) \times (PNR) \times (PTRAPNRT) \times (PEA) +$$
$$+ (TCBVT) \times (PCIC) \times (EWRTC) \times (PNR) \times (PTRAPNRT) \times (PEA) \times (0.30)$$

TOTAL PEAK VEHICLE TRIPS REDUCED (TPVTR) IS A FUNCTION OF:
TOTAL TRIPS REDUCED (TTR);
TRANSIT COMMUTE TRIPS SHARE (TCTS);
PERCENT OF COMMUTE TRIPS IN PEAK (PCPT);
TRANSIT NON−COMMUTE TRIPS SHARE (TNCTS) AND
PERCENT OF NON−COMMUTE TRIPS IN PEAK (PNCPT)

$$\text{TPVTR} = (\text{TTR}) \times [((\text{TCTS}) \times (\text{PCPT})) + ((\text{TNCTS}) \times (\text{PNCPT}))]$$

TOTAL OFF−PEAK VEHICLE TRIPS REDUCED (TOPVTR) IS A FUNCTION OF:
TOTAL TRIPS REDUCED (TTR) AND
TOTAL PEAK TRIPS REDUCED (PTR)

$$\text{TOPVTR} = (\text{TTR}) - (\text{TPTR})$$

TOTAL PEAK VEHICLE MILES TRAVELED REDUCED (TPVMTR)
IS A FUNCTION OF:
TOTAL PEAK VEHICLE TRIPS REDUCED (TPVTR);
PERCENT OF COMMUTE TRIPS IN THE PEAK (PCPT);
AVERAGE COMMUTE TRIP LENGTH (ACTL);
PERCENT OF PEAK TRIPS THAT ARE NON−COMMUTE (PNCPT);
AVERAGE NON−COMMUTE TRIP LENGTH (ANCTL);
VEHICLE MILES REDUCED DUE TO PARK−AND RIDE TRAVEL (PNRVMTR);
PERCENT OF TRIPS LOST DUE TO PARK−AND−RIDE TRAVEL (PTLAPNRT)
WHICH IS (1−PTRAPNRT) AND
AVERAGE TRIP LENGTH SAVED AFTER PARK−AND−RIDE TRAVEL (ATLSAPNRT)
WHICH IS 2/3 OF AVERAGE TRIP LENGTH

$$\text{TPVMTR} = (\text{TPVTR}) \times [((\text{PCPT}) \times (\text{ACTL})) + \\ + ((\text{PNCPT}) \times (\text{ANCTL})) + \\ + ((\text{PTLAPNRT}) \times (\text{ATLSAPNRT}))]$$

TOTAL OFF−PEAK VEHICLE MILES TRAVELED REDUCED (TOPVMTR)
IS A FUNCTION OF:
TOTAL OFF−PEAK VEHICLE TRIPS REDUCED (TOPVTR);
PERCENT OF OFF−PEAK TRIPS THAT ARE COMMUTE (PCOPT);
AVERAGE COMMUTE TRIP LENGTH (ACTL);
PERCENT OF OFF−PEAK TRIPS THAT ARE NON−COMMUTE TRIPS (PNCOPT);
AVERAGE NON−COMMUTE TRIP LENGTH (ANCTL);
VEHICLE MILES REDUCED DUE TO PARK−AND RIDE TRAVEL (PNRVMTR);
PERCENT OF TRIPS LOST DUE TO PARK−AND−RIDE TRAVEL (PTLAPNRT)
WHICH IS (1−PTRAPNRT) AND
AVERAGE TRIP LENGTH SAVED AFTER PARK−AND−RIDE TRAVEL (ATLSAPNRT)
WHICH IS 2/3 OF AVERAGE TRIP LENGTH

$$\text{TOPVMTR} = (\text{TOPVTR}) \times [((\text{PCOPT}) \times (\text{ACTL})) + \\ + ((\text{PNCOPT}) \times (\text{ANCTL})) + \\ + ((\text{PTLAPNRT}) \times (\text{ATLSAPNRT}))]$$

TOTAL VEHICLE MILES TRAVELED REDUCED (TVMTR)
IS A FUNCTION OF:
TOTAL PEAK VEHICLE MILES TRAVELED REDUCED (TPVMTR) AND
TOTAL OFF−PEAK VEHICLE MILES TRAVELED REDUCED (TOPVMTR)

$$\text{TVMTTR} = (\text{TPVMTR}) + (\text{TOPVMTR})$$

LIKELY OUTCOMES

	NO PARKING EFFECT	WITH PARKING EFFECT
TRIP REDUCTIONS		
TOTAL VEHICLE TRIPS REDUCED (STANDARD)	82,639	144,864
TOTAL VEHICLE TRIPS REDUCED (HIGH)	123,958	217,296
TOTAL PEAK VEHICLE TRIPS REDUCED (STANDARD)	50,342	89,233
TOTAL PEAK VEHICLE TRIPS REDUCED (HIGH)	75,514	133,850
TOTAL OFF-PEAK VEHICLE TRIPS REDUCED (STANDARD)	32,296	55,631
TOTAL OFF-PEAK VEHICLE TRIPS REDUCED (HIGH)	48,445	83,446
VMT REDUCTIONS		
TOTAL REDUCTIONS IN PEAK VMT (STANDARD)	679,753	1,123,109
TOTAL REDUCTIONS IN PEAK VMT (HIGH)	1,019,630	1,684,663
TOTAL REDUCTIONS IN OFF-PEAK VMT (STANDARD)	441,816	707,827
TOTAL REDUCTIONS IN OFF-PEAK VMT (HIGH)	662,724	1,061,741
REDUCTIONS IN TOTAL VMT (STANDARD)	1,121,570	1,830,936
REDUCTIONS IN TOTAL VMT (HIGH)	1,682,354	2,746,404

TRANSPORTATION MODEL

TCM PACKAGE #6.1 (SCENARIO1) RIDSHARING FOR SMALL EMPLOYERS,
PREFERENTIAL PARKING FOR CARPOOLERS AND VANPOOLERS,
A $.5 CHARGE FOR SOV USERS AND
A $1 SUBSIDY FOR RIDESHARERS

ASSUMPTIONS

PERCENT INCREASE IN THE NON–DRIVE ALONE MODE	5.00%
PERCENT INCREASE IN THE NON–DRIVE ALONE SHARE (HIGH)	6.00%
PERCENT OF TRIPS REDUCED AFTER CIRCULATION	70.00%
PERCENT OF DRIVE ALONE MODE	74.20%
PERCENT OF EMPLOYEES AFFECTED	20.00%
AVERAGE SIZE OF CARPOOL	2.37
DAILY AVERAGE CHARGE FOR PARKING	$0.50
PARKING CHARGE FOR CARPOOLS AND VANPOOLS	$0.00
SUBSIDY FOR RIDESHARERS PER TRIP	$1.00

METHODOLOGY

SEE TCM PACKAGE #6 (SCENARIO3)

LIKELY OUTCOMES

	NO PARKING EFFECT	WITH PARKING EFFECT
TRIP REDUCTIONS		
TOTAL VEHICLE TRIPS REDUCED (STANDARD)	44,940	55,310
TOTAL VEHICLE TRIPS REDUCED (HIGH)	49,262	57,040
TOTAL PEAK VEHICLE TRIPS REDUCED (STANDARD)	28,088	34,569
TOTAL PEAK VEHICLE TRIPS REDUCED (HIGH)	30,789	35,650
TOTAL OFF–PEAK VEHICLE TRIPS REDUCED (STANDARD)	16,853	20,741
TOTAL OFF–PEAK VEHICLE TRIPS REDUCED (HIGH)	18,473	21,390
VMT REDUCTIONS		
TOTAL REDUCTIONS IN PEAK VMT (STANDARD)	381,162	467,246
TOTAL REDUCTIONS IN PEAK VMT (HIGH)	483,220	612,347
TOTAL REDUCTIONS IN OFF–PEAK VMT (STANDARD)	228,992	280,642
TOTAL REDUCTIONS IN OFF–PEAK VMT (HIGH)	290,287	367,763
REDUCTIONS IN TOTAL VMT (STANDARD)	610,154	747,889
REDUCTIONS IN TOTAL VMT (HIGH)	773,507	980,110

TCM PACKAGE #6.2 (SCENARIO 2) RIDSHARING FOR SMALL EMPLOYERS, PREFERENTIAL PARKING FOR CARPOOLERS AND VANPOOLERS, A $1 CHARGE FOR SOV USERS AND A $1 SUBSIDY FOR RIDESHARERS

ASSUMPTIONS

PERCENT INCREASE IN THE NON-DRIVE ALONE MODE	6.00%
PERCENT INCREASE IN THE NON-DRIVE ALONE SHARE (HIGH)	7.00%
PERCENT OF TRIPS REDUCED AFTER CIRCULATION	70.00%
PERCENT OF DRIVE ALONE MODE	74.20%
PERCENT OF EMPLOYEES AFFECTED	20.00%
AVERAGE SIZE OF CARPOOL	2.37
DAILY AVERAGE CHARGE FOR PARKING	$0.50
PARKING CHARGE FOR CARPOOLS AND VANPOOLS	$0.00
SUBSIDY FOR RIDESHARERS PER TRIP	$1.00

METHODOLOGY

SEE TCM PACKAGE #6 (SCENARIO3)

LIKELY OUTCOMES

	NO PARKING EFFECT	WITH PARKING EFFECT
TRIP REDUCTIONS		
TOTAL VEHICLE TRIPS REDUCED (STANDARD)	72,595	103,707
TOTAL VEHICLE TRIPS REDUCED (HIGH)	89,880	131,363
TOTAL PEAK VEHICLE TRIPS REDUCED (STANDARD)	45,372	64,817
TOTAL PEAK VEHICLE TRIPS REDUCED (HIGH)	56,175	82,102
TOTAL OFF-PEAK VEHICLE TRIPS REDUCED (STANDARD)	27,223	38,890
TOTAL OFF-PEAK VEHICLE TRIPS REDUCED (HIGH)	33,705	49,261
VMT REDUCTIONS		
TOTAL REDUCTIONS IN PEAK VMT (STANDARD)	612,347	870,601
TOTAL REDUCTIONS IN PEAK VMT (HIGH)	757,447	1,101,786
TOTAL REDUCTIONS IN OFF-PEAK VMT (STANDARD)	367,762	522,714
TOTAL REDUCTIONS IN OFF-PEAK VMT (HIGH)	454,882	661,485
REDUCTIONS IN TOTAL VMT (STANDARD)	980,109	1,393,316
REDUCTIONS IN TOTAL VMT (HIGH)	1,212,329	1,763,271

PACKAGE #6.3 RIDSHARING FOR SMALL EMPLOYERS,
PREFERENTIAL PARKING FOR CARPOOLERS AND VANPOOLERS,
A $1 SUBSIDY FOR RIDESHARERS AND A $3 PARKING CHARGE FOR SOV USERS

ASSUMPTIONS

PERCENT INCREASE IN THE NON−DRIVE ALONE MODE	7.00%
PERCENT INCREASE IN THE NON−DRIVE ALONE SHARE (HIGH)	9.00%
PERCENT OF TRIPS REDUCED AFTER CIRCULATION	70.00%
PERCENT OF DRIVE ALONE MODE	74.20%
PERCENT OF EMPLOYEES AFFECTED	20.00%
AVERAGE SIZE OF CARPOOL	2.37
DAILY AVERAGE CHARGE FOR PARKING	$3.00
PARKING CHARGE FOR CARPOOLS AND VANPOOLS	$0.00
SUBSIDY FOR RIDESHARERS PER TRIP	$1.00

METHODOLOGY

TOTAL VEHICLE TRIPS REDUCED (TVTR) IS A FUNCTION OF:
AN ESTIMATED INCREASE IN RIDERSHIP (ERI);
TOTAL COMMUTE BASELINE VEHICLE TRIPS (TCBVT);
PERCENT OF NEW RIDERS THAT ARE SOV USERS (PNR);
PERCENT OF TRIPS REDUCED AFTER PARK−AND RIDE TRAVEL (PTRAPNRT) AND
PERCENT OF EMPLOYEES AFFECTED (PEA)

$$
\begin{aligned}
TVTR = \ &(ERI) \times (TCBVT) \times (PNR) \times (PTRAPNRT) \times (PEA) + \\
&+ (ERI) \times (TCBVT) \times (PNR) \times + (PPSA) \times (PNR) + \\
&+ (ERI) \times (TCBPT) \times (PNR) \times (PTRAPNRT) \times (PEA) + \\
&+ (ERI) \times (TCBPT) \times (PNR) \times (PTRAPNRT) \times (PEA) + \\
&+ (TCBVT) \times (PCIC) \times (EWRTC) \times (PNR) \times (PTRAPNRT) \times (PEA) \times (0.60)
\end{aligned}
$$

TOTAL PEAK VEHICLE TRIPS REDUCED (TPVTR) IS A FUNCTION OF:
TOTAL VEHICLE TRIPS REDUCED (TVTR);
PERCENT OF COMMUTE TRIPS IN PEAK (PCPT);

$$ TPVTR = (TVTR) \times (PCPT)) $$

TOTAL OFF−PEAK VEHICLE TRIPS REDUCED (TOPVTR) IS A FUNCTION OF:
TOTAL VEHICLE TRIPS REDUCED (TVTR) AND
TOTAL PEAK VEHICLE TRIPS REDUCED (TPVTR)

$$ TOPVTR = (TVTR) - (TPVTR) $$

TOTAL PEAK VEHICLE MILES TRAVELED REDUCED (TPVMTR)
IS A FUNCTION OF:
TOTAL PEAK VEHICLE TRIPS REDUCED (TPVTR);
AVERAGE COMMUTE TRIP LENGTH (ACTL);
VEHICLE MILES REDUCED DUE TO PARK−AND RIDE TRAVEL (PNRVMTR);
PERCENT OF TRIPS LOST DUE TO PARK−AND−RIDE TRAVEL (PTLAPNRT)
WHICH IS (1−PTRAPNRT) AND
AVERAGE TRIP LENGTH SAVED AFTER PARK−AND−RIDE TRAVEL (ATLSAPNRT)
WHICH IS 2/3 OF AVERAGE TRIP LENGTH

$$ TPVMTR = (TPVTR) \times (ACTL) + (TPVTR) \times (PTLAPNRT) \times (ATLSAPNRT) $$

TOTAL OFF−PEAK VEHICLE MILES TRAVELED REDUCED (TOPVMTR)
IS A FUNCTION OF:

TOTAL OFF−PEAK VEHICLE TRIPS REDUCED (TOPVTR);
AVERAGE COMMUTE TRIP LENGTH (ACTL);
VEHICLE MILES REDUCED AFTER PARK−AND RIDE TRAVEL (PNRVMTR);
PERCENT OF TRIPS LOST AFTER PARK−AND−RIDE TRAVEL (PTLAPNRT)
WHICH IS (1−PTRAPNRT) AND
AVERAGE TRIP LENGTH SAVED AFTER PARK−AND−RIDE TRAVEL (ATLSAPNRT)
WHICH IS 2/3 OF AVERAGE TRIP LENGTH

TOPVMTR = (TOPVTR) X (ACTL) +
+ (TPVTR) X ((PTLAPNRT) X (ATLSAPNRT))

TOTAL VEHICLE MILES TRAVELED REDUCED (TVMTR)
IS A FUNCTION OF:

TOTAL PEAK VEHICLE MILES TRAVELED REDUCED (TPVMTR) AND
TOTAL OFF−PEAK VEHICLE MILES TRAVELED REDUCED (TOPVMTR)

TVMTTR = (TPVMTR) + (TOPVMTR)

LIKELY OUTCOMES

TRIP REDUCTIONS	NO PARKING EFFECT	WITH PARKING EFFECT
TOTAL VEHICLE TRIPS REDUCED (STANDARD)	65,226	189,676
TOTAL VEHICLE TRIPS REDUCED (HIGH)	83,862	258,092
TOTAL PEAK VEHICLE TRIPS REDUCED (STANDARD)	40,766	118,547
TOTAL PEAK VEHICLE TRIPS REDUCED (HIGH)	52,413	161,307
TOTAL OFF−PEAK VEHICLE TRIPS REDUCED (STANDARD)	24,460	71,128
TOTAL OFF−PEAK VEHICLE TRIPS REDUCED (HIGH)	31,448	96,784
TRIP REDUCTIONS		
TOTAL REDUCTIONS IN PEAK VMT (STANDARD)	557,680	1,444,390
TOTAL REDUCTIONS IN PEAK VMT (HIGH)	717,017	1,958,408
TOTAL REDUCTIONS IN OFF−PEAK VMT (STANDARD)	334,608	866,630
TOTAL REDUCTIONS IN OFF−PEAK VMT (HIGH)	430,210	1,175,045
REDUCTIONS IN TOTAL VMT (STANDARD)	892,287	2,311,019
REDUCTIONS IN TOTAL VMT (HIGH)	1,147,226	3,133,453

TRANSPORTATION MODEL LACMTA

TCM PACKAGE #7.1 (SCENARIO 1) BICYCLE AND PEDESTRIAN IMPROVEMENT,
WALKING AND BICYCLING SUBSIDY OF $1 PER TRIP AND
A PARKING CHARGE OF $.50

ASSUMPTIONS

PERCENT OF EMPLOYEES AFFECTED	8.80%
PERCENT INCREASE IN BICYCLISTS AND WALKERS (STANDARD)	1.00%
PERCENT INCREASE IN BICYCLISTS AND WALKERS (HIGH)	2.00%
DRIVE ALONE MODE SHARE	74.20%
PARKING COST INCREASE PER TRIP	$0.50
WALKING AND BICYCING SUBSIDY PER TRIP	$1.00

METHODOLOGY

SEE TCM PACKAGE #7 (SCENARIO3)

LIKELY OUTCOMES

	NO PARKING EFFECT	WITH PARKING EFFECT
TRIP REDUCTIONS		
TOTAL VEHICLE TRIPS REDUCED (STANDARD)	18,383	20,111
TOTAL VEHICLE TRIPS REDUCED (HIGH)	21,009	22,984
TOTAL PEAK VEHICLE TRIPS REDUCED (STANDARD)	10,478	11,558
TOTAL PEAK VEHICLE TRIPS REDUCED (HIGH)	11,975	13,209
TOTAL OFF-PEAK VEHICLE TRIPS REDUCED (STANDARD)	7,905	8,553
TOTAL OFF-PEAK VEHICLE TRIPS REDUCED (HIGH)	9,034	9,775
VMT REDUCTIONS		
TOTAL REDUCTIONS IN PEAK VMT (STANDARD)	27,431	30,672
TOTAL REDUCTIONS IN PEAK VMT (HIGH)	31,350	35,054
TOTAL REDUCTIONS IN OFF-PEAK VMT (STANDARD)	16,216	18,160
TOTAL REDUCTIONS IN OFF-PEAK VMT (HIGH)	18,533	20,755
REDUCTIONS IN TOTAL VMT (STANDARD)	43,647	48,832
REDUCTIONS IN TOTAL VMT (HIGH)	49,882	55,808

TCM PACKAGE #7.2 (SCENARIO2) BICYCLE AND PEDESTRIAN IMPROVEMENT,
WALKING AND BICYCLING SUBSIDY OF $1 PER TRIP AND
A PARKING CHARGE OF $1

ASSUMPTIONS

PERCENT OF EMPLOYEES AFFECTED	8.80%
PERCENT INCREASE IN BICYCLISTS AND WALKERS (STANDARD)	2.00%
PERCENT INCREASE IN BICYCLISTS AND WALKERS (HIGH)	3.20%
DRIVE ALONE MODE SHARE	74.20%
PARKING COST INCREASE PER TRIP	$3.00
WALKING AND BICYCING SUBSIDY PER TRIP	$1.00

METHODOLOGY

SEE TCM PACKAGE #7 (SCENARIO3)

LIKELY OUTCOMES

	NO PARKING EFFECT	WITH PARKING EFFECT
TRIP REDUCTIONS		
TOTAL VEHICLE TRIPS REDUCED (STANDARD)	24,505	29,690
TOTAL VEHICLE TRIPS REDUCED (HIGH)	28,006	33,932
TOTAL PEAK VEHICLE TRIPS REDUCED (STANDARD)	14,142	17,383
TOTAL PEAK VEHICLE TRIPS REDUCED (HIGH)	16,162	19,866
TOTAL OFF—PEAK VEHICLE TRIPS REDUCED (STANDARD)	10,363	12,308
TOTAL OFF—PEAK VEHICLE TRIPS REDUCED (HIGH)	11,843	14,066
VMT REDUCTIONS		
TOTAL REDUCTIONS IN PEAK VMT (STANDARD)	37,783	47,506
TOTAL REDUCTIONS IN PEAK VMT (HIGH)	43,181	54,292
TOTAL REDUCTIONS IN OFF—PEAK VMT (STANDARD)	22,388	28,222
TOTAL REDUCTIONS IN OFF—PEAK VMT (HIGH)	25,586	32,253
REDUCTIONS IN TOTAL VMT (STANDARD)	60,171	75,727
REDUCTIONS IN TOTAL VMT (HIGH)	68,767	86,545

PACKAGE #7.3 BICYCLE AND PEDESTRIAN IMPROVEMENT, WALKING AND BICYCLING SUBSIDY OF $1 PER TRIP AND A $3 PARKING CHARGE FOR SOV USERS AND

ASSUMPTIONS

PERCENT OF EMPLOYEES AFFECTED	8.80%
PERCENT INCREASE IN BICYCLISTS AND WALKERS (STANDARD)	2.00%
PERCENT INCREASE IN BICYCLISTS AND WALKERS (HIGH)	4.00%
DRIVE ALONE MODE SHARE	74.20%
PARKING COST INCREASE PER TRIP	$3.00
WALKING AND BICYCING SUBSIDY PER TRIP	$1.00

METHODOLOGY

TOTAL VEHICLE TRIPS REDUCED (TVTR) IS A FUNCTION OF:

AN ESTIMATED INCREASE IN RIDER SHIP (ERI);
TOTAL COMMUTE BASELINE VEHICLE TRIPS (TCBVT);
PERCENT OF NEW RIDERS THAT ARE SOV USERS (PNR);
PERCENT OF EMPLOYEES AFFECTED (PEA)

$$TVTR = (ERI) \times (TCBVT) \times (PNR) \times (PEA) +$$
$$+ (ERI) \times (TCBVT) \times (PNR) \times (PEA) +$$
$$+ (ERI) \times (TCBVT) \times (PNR) \times (PEA) +$$
$$+ (TCBVT) \times (PCIC) \times (EWRTC) \times (PNR) \times$$
$$\times (PTRAPNRT) \times (PEA) \times (.10)$$

TOTAL PEAK VEHICLE TRIPS REDUCED (TPVTR) IS A FUNCTION OF:

TOTAL VEHICLE TRIPS REDUCED (TVTR);
PERCENT OF COMMUTE TRIPS IN PEAK (PCPT);

$$TPVTR = (TVTR) \times (PCPT))$$

TOTAL OFF-PEAK VEHICLE TRIPS REDUCED (TOPVTR) IS A FUNCTION OF:

TOTAL VEHICLE TRIPS REDUCED (TVTR) AND
TOTAL PEAK VEHICLE TRIPS REDUCED (TPVTR)

$$TOPVTR = (TVTR) - (TPVTR)$$

TOTAL PEAK VEHICLE MILES TRAVELED REDUCED (TPVMTR)
IS A FUNCTION OF:

TOTAL PEAK VEHICLE TRIPS REDUCED (TPVTR);
AVERAGE COMMUTE TRIP LENGTH (ACTL);

$$TPVMTR = (TPVTR) \times (ACTL)$$

TOTAL OFF–PEAK VEHICLE MILES TRAVELED REDUCED (TOPVMTR)
IS A FUNCTION OF:

TOTAL OFF–PEAK VEHICLE TRIPS REDUCED (TOPVTR);
AVERAGE COMMUTE TRIP LENGTH (ACTL);

TOPVMTR = (TOPVTR) X (ACTL)

TOTAL VEHICLE MILES TRAVELED REDUCED (TVMTR)
IS A FUNCTION OF:

TOTAL PEAK VEHICLE MILES TRAVELED REDUCED (TPVMTR) AND
TOTAL OFF–PEAK VEHICLE MILES TRAVELED REDUCED (TOPVMTR)

TVMTTR = (TPVMTR) + (TOPVMTR)

LIKELY OUTCOMES

TRIP REDUCTIONS	NO PARKING EFFECT	WITH PARKING EFFECT
TOTAL VEHICLE TRIPS REDUCED (STANDARD)	43,459	64,201
TOTAL VEHICLE TRIPS REDUCED (HIGH)	86,918	128,401
TOTAL PEAK VEHICLE TRIPS REDUCED (STANDARD)	25,206	38,170
TOTAL PEAK VEHICLE TRIPS REDUCED (HIGH)	50,412	76,340
TOTAL OFF–PEAK VEHICLE TRIPS REDUCED (STANDARD)	18,253	26,031
TOTAL OFF–PEAK VEHICLE TRIPS REDUCED (HIGH)	36,506	52,062
TRIP REDUCTIONS		
TOTAL REDUCTIONS IN PEAK VMT (STANDARD)	64,754	103,645
TOTAL REDUCTIONS IN PEAK VMT (HIGH)	129,508	207,289
TOTAL REDUCTIONS IN OFF–PEAK VMT (STANDARD)	48,239	71,574
TOTAL REDUCTIONS IN OFF–PEAK VMT (HIGH)	96,479	143,147
REDUCTIONS IN TOTAL VMT (STANDARD)	112,993	175,218
REDUCTIONS IN TOTAL VMT (HIGH)	225,986	350,437

**TCM PACKAGE #8.1 (SCENARIO1) TRIP REDUCTION ORDINANCE
FOR SMALL EMPLOYERS, A $0.5 CHARGE FOR PARKING AND
FREE PREFERENTIAL PARKING FOR RIDESHARERS**

ASSUMPTIONS

BASE AVERAGE VEHICLE RIDERSHIP	1.19
EXPECTED AVERAGE VEHICLE RIDERSHIP (STANDARD)	1.23
EXPECTED AVERAGE VEHICLE RIDERSHIP (HIGH)	1.26
PERCENT INCREASE IN NON–DRIVE ALONE MODE (STANDARD)	3.36%
PERCENT INCREASE IN NON–DRIVE ALONE MODE (HIGH)	5.88%
INCREASED PARKING COST	$0.50
COST PER MILE TO DRIVE	$0.48
COST INCREASE PER COMMUTE TRIP	$0.57
PERCENT OF EMPLOYEES AFFECTED	20.00%
PERCENT OF TRIP REDUCTIONS AFTER CIRCULATION	70.00%

METHODOLOGY

SEE TCM PACKAGE #8 (SCENARIO 3)

LIKELY OUTCOMES

	NO PARKING EFFECT	WITH PARKING EFFECT
TRIP REDUCTIONS		
TOTAL VEHICLE TRIPS REDUCED (STANDARD)	48,605	65,889
TOTAL VEHICLE TRIPS REDUCED (HIGH)	80,783	106,710
TOTAL PEAK VEHICLE TRIPS REDUCED (STANDARD)	30,378	41,181
TOTAL PEAK VEHICLE TRIPS REDUCED (HIGH)	50,489	66,693
TOTAL OFF–PEAK VEHICLE TRIPS REDUCED (STANDARD)	18,227	24,708
TOTAL OFF–PEAK VEHICLE TRIPS REDUCED (HIGH)	30,294	40,016
VMT REDUCTIONS		
TOTAL REDUCTIONS IN PEAK VMT (STANDARD)	410,821	554,295
TOTAL REDUCTIONS IN PEAK VMT (HIGH)	683,069	898,281
TOTAL REDUCTIONS IN OFF–PEAK VMT (STANDARD)	246,760	332,844
TOTAL REDUCTIONS IN OFF–PEAK VMT (HIGH)	410,310	539,437
REDUCTIONS IN TOTAL VMT (STANDARD)	657,581	887,140
REDUCTIONS IN TOTAL VMT (HIGH)	1,093,379	1,437,718

TRANSPORTATION MODEL

TCM PACKAGE #8.2 (SCENARIO 2) TRIP REDUCTION ORDINANCE
FOR SMALL EMPLOYERS, A $1 CHARGE FOR PARKING AND
FREE PREFERENTIAL PARKING FOR RIDESHARERS

ASSUMPTIONS

BASE AVERAGE VEHICLE RIDERSHIP	1.19
EXPECTED AVERAGE VEHICLE RIDERSHIP (STANDARD)	1.25
EXPECTED AVERAGE VEHICLE RIDERSHIP (HIGH0	1.28
PERCENT INCREASE IN NON-DRIVE ALONE MODE (STANDARD)	5.04%
PERCENT INCREASE IN NON-DRIVE ALONE MODE (HIGH)	7.56%
INCREASED PARKING COST	$1.00
COST PER MILE TO DRIVE	$0.48
COST INCREASE PER COMMUTE TRIP	$0.57
PERCENT OF EMPLOYEES AFFECTED	20.00%
PERCENT OF TRIP REDUCTIONS AFTER CIRCULATION	70.00%

METHODOLOGY

SEE TCM PACKAGE #8 (SCENARIO3)

LIKELY OUTCOMES

	NO PARKING EFFECT	WITH PARKING EFFECT
TRIP REDUCTIONS		
TOTAL VEHICLE TRIPS REDUCED (STANDARD)	98,835	150,689
TOTAL VEHICLE TRIPS REDUCED (HIGH)	139,611	208,750
TOTAL PEAK VEHICLE TRIPS REDUCED (STANDARD)	61,772	94,181
TOTAL PEAK VEHICLE TRIPS REDUCED (HIGH)	87,257	130,469
TOTAL OFF-PEAK VEHICLE TRIPS REDUCED (STANDARD)	37,063	56,508
TOTAL OFF-PEAK VEHICLE TRIPS REDUCED (HIGH)	52,354	78,281
VMT REDUCTIONS		
TOTAL REDUCTIONS IN PEAK VMT (STANDARD)	831,444	1,261,868
TOTAL REDUCTIONS IN PEAK VMT (HIGH)	1,175,000	1,748,898
TOTAL REDUCTIONS IN OFF-PEAK VMT (STANDARD)	488,268	746,522
TOTAL REDUCTIONS IN OFF-PEAK VMT (HIGH)	705,860	1,050,199
REDUCTIONS IN TOTAL VMT (STANDARD)	1,319,712	2,008,390
REDUCTIONS IN TOTAL VMT (HIGH)	1,880,860	2,799,097

PACKAGE #8.3 TRIP REDUCTION ORDINANCE FOR SMALL EMPLOYERS
   $3 PARKING CHARGE AND
   PREFERENTIAL FREE PARKING FOR RIDESHERERS

ASSUMPTIONS

BASE AVERAGE VEHICLE RIDERSHIP	1.19
EXPECTED AVERAGE VEHICLE RIDERSHIP (STANDARD)	1.3
EXPECTED AVERAGE VEHICLE RIDERSHIP (HIGH)	1.35
PERCENT INCREASE IN NON−DRIVE ALONE MODE (STANDARD)	9.24%
PERCENT INCREASE IN NON−DRIVE ALONE MODE (HIGH)	13.45%
INCREASED PARKING COST	$3.00
COST INCREASE PER COMMUTE TRIP	$0.57
PERCENT OF EMPLOYEES AFFECTED	20.00%
PERCENT OF TRIP REDUCTIONS AFTER CIRCULATION	70.00%

METHODOLOGY

TOTAL VEHICLE TRIPS REDUCED (TVTR) IS A FUNCTION OF:
AN ESTIMATED INCREASE IN RIDER SHIP (ERI);
TOTAL COMMUTE BASELINE VEHICLE TRIPS (TCBVT);
PERCENT OF NEW RIDERS THAT ARE SOV USERS (PNR);
PERCENT OF TRIPS REDUCED AFTER PARK−AND RIDE TRAVEL (PTRAPNRT) AND
PERCENT OF EMPLOYEES AFFECTED (PEA)

$$TVTR = (TBCVT) \times [\{((PEA) / (BAVR)) -$$
$$- ((PEA) / (EAVR))\} \times (PNR) \times (PTRAPNRT)] +$$
$$+ (ERI) \times (TCBVT) \times (PNR) \times + (PPSA) \times (PNR) +$$
$$+ (TCBVT) \times (PCIC) \times (EWRTC) \times (PNR) \times (PTRAPNRT)$$
$$\times (PEA)$$

TOTAL PEAK VEHICLE TRIPS REDUCED (TPVTR) IS A FUNCTION OF:
TOTAL VEHICLE TRIPS REDUCED (TVTR);
PERCENT OF COMMUTE TRIPS IN PEAK (PCPT);

$$TPVTR = (TVTR) \times (PCPT))$$

TOTAL OFF−PEAK VEHICLE TRIPS REDUCED (TOPVTR) IS A FUNCTION OF:
TOTAL VEHICLE TRIPS REDUCED (TVTR) AND
TOTAL PEAK VEHICLE TRIPS REDUCED (TPVTR)

$$TOPVTR = (TVTR) - (TPVTR)$$

TOTAL PEAK VEHICLE MILES TRAVELED REDUCED (TPVMTR)
IS A FUNCTION OF:
TOTAL PEAK VEHICLE TRIPS REDUCED (TPVTR);
AVERAGE COMMUTE TRIP LENGTH (ACTL);
VEHICLE MILES REDUCED DUE TO PARK—AND RIDE TRAVEL (PNRVMTR);
PERCENT OF TRIPS LOST DUE TO PARK—AND—RIDE TRAVEL (PTLAPNRT)
WHICH IS (1—PTRAPNRT) AND
AVERAGE TRIP LENGTH SAVED AFTER PARK—AND—RIDE TRAVEL (ATLSAPNRT)
WHICH IS 2/3 OF AVERAGE TRIP LENGTH

$$\text{TPVMTR} = (\text{TPVTR}) \times (\text{ACTL}) +$$
$$+ (\text{TPVTR}) \times ((\text{PTLAPNRT}) \times (\text{ATLSAPNRT}))$$

TOTAL OFF—PEAK VEHICLE MILES TRAVELED REDUCED (TOPVMTR)
IS A FUNCTION OF:
TOTAL OFF—PEAK VEHICLE TRIPS REDUCED (TOPVTR);
AVERAGE COMMUTE TRIP LENGTH (ACTL);
VEHICLE MILES REDUCED AFTER PARK—AND RIDE TRAVEL (PNRVMTR);
PERCENT OF TRIPS LOST AFTER PARK—AND—RIDE TRAVEL (PTLAPNRT)
WHICH IS (1—PTRAPNRT) AND
AVERAGE TRIP LENGTH SAVED AFTER PARK—AND—RIDE TRAVEL (ATLSAPNRT)
WHICH IS 2/3 OF AVERAGE TRIP LENGTH

$$\text{TOPVMTR} = (\text{TOPVTR}) \times (\text{ACTL}) +$$
$$+ (\text{TPVTR}) \times ((\text{PTLAPNRT}) \times (\text{ATLSAPNRT}))$$

TOTAL VEHICLE MILES TRAVELED REDUCED (TVMTR)
IS A FUNCTION OF:
TOTAL PEAK VEHICLE MILES TRAVELED REDUCED (TPVMTR) AND
TOTAL OFF—PEAK VEHICLE MILES TRAVELED REDUCED (TOPVMTR)

$$\text{TVMTTR} = (\text{TPVMTR}) + (\text{TOPVMTR})$$

LIKELY OUTCOMES

	NO PARKING EFFECT	WITH PARKING EFFECT
TRIP REDUCTIONS		
TOTAL VEHICLE TRIPS REDUCED (STANDARD)	86,132	293,549
TOTAL VEHICLE TRIPS REDUCED (HIGH)	125,283	415,667
TOTAL PEAK VEHICLE TRIPS REDUCED (STANDARD)	53,833	183,469
TOTAL PEAK VEHICLE TRIPS REDUCED (HIGH)	78,302	259,792
TOTAL OFF—PEAK VEHICLE TRIPS REDUCED (STANDARD)	32,300	110,081
TOTAL OFF—PEAK VEHICLE TRIPS REDUCED (HIGH)	46,981	155,875
VMT REDUCTIONS		
TOTAL REDUCTIONS IN PEAK VMT (STANDARD)	736,432	2,458,128
TOTAL REDUCTIONS IN PEAK VMT (HIGH)	1,071,173	3,481,547
TOTAL REDUCTIONS IN OFF—PEAK VMT (STANDARD)	441,859	1,474,876
TOTAL REDUCTIONS IN OFF—PEAK VMT (HIGH)	642,704	2,088,928
REDUCTIONS IN TOTAL VMT (STANDARD)	1,178,290	3,933,003
REDUCTIONS IN TOTAL VMT (HIGH)	1,713,877	5,570,476