INTRODUCTION

Wilbur Smith Associates (WSA) is pleased to submit team findings from the pre-project baseline market survey tasks performed for the I-15 Congestion Pricing Project. The purpose of this work was to test attitudes and opinions of commuters traveling in the corridor during the peak period. The research program included both qualitative and quantitative studies: focus group discussions were held and surveying was performed by telephone, at park-and-ride lots, and at transit centers. Focus groups were scripted to test commuter attitudes and opinions on various travel-related topics and to explore commuters thoughts about congestion pricing. The surveys elicited explicit information from respondents on driving behavior and travel modes and this information was used to formulate program strategies. This research effort assisted in:

- developing an I-15 commuter profile,
- assessing public reaction to project impacts,
- designing implementation strategies,
- establishing pricing policies,
- understanding travel behavior,
- exploring technology options,
- identifying potential customer service needs, and
- establishing a pre-project baseline data set.

BACKGROUND

I-15 ExpressPass is a three-year pilot program designed to find new ways to relieve traffic congestion on Interstate 15 by making maximum use of all traffic lanes. The project will allow a limited number of solo drivers to use the 8-mile stretch of carpool lanes, for a monthly fee. Revenues generated from the project will fund transportation alternatives such as transit and rideshare strategies in the I-15 corridor.

The I-15 ExpressPass program is made possible through a grant from the Federal Highway Administration and developed by the San Diego Association of Governments (SANDAG). Other program partners include the California Department of Transportation (Caltrans District 11), the Federal Transit Administration, the California Highway Patrol, and the San Diego Metropolitan Transit Development Board.

Location -- The I-15 Express Lanes are two reversible, 8-mile lanes that were built in the center median of I-15 for use by carpools, buses, vanpools and motorcycles during the morning and evening peak commute periods. These peak periods are defined as southbound, 6:00 to 9:00 a.m., and northbound, 3:00 to 6:30 p.m., Monday through Friday. The Express Lanes are located between State Routes 56 and 52, in northern San Diego County.
**Program** -- ExpressPass customers, who are solo drivers, will be allowed to use these lanes for a monthly fee. Customers can open and maintain an ExpressPass account on a first come, first served basis. The initial December 1996 monthly fee for ExpressPass is $50. After that, the price of the monthly fee will vary during 1997 allowing project sponsors to collect important information about the value which ExpressPass users place on the time they save using the Express Lanes.

Initially, 500 participants will be accepted in the I-15 ExpressPass program on a first come, first served basis. Applicants not chosen initially will be put on a waiting list and will be contacted as vacancies develop. Commitment to the program is monthly, so participants who choose to leave the program will be replaced by those on the waiting list.

**Additional Market Research** -- Since this is a pilot program, ExpressPass users will be asked to participate in additional market research such as focus groups, attitudinal, and customer satisfaction surveys. The goal of this research is to determine what is working well; what might need improvement and to ensure the most user-friendly, efficient ExpressPass system; and to assist planning for full implementation.

**MARKET RESEARCH PROGRAM**

- **Research Area**

  A primary research area (see Figure 1) was identified which consisted of approximately 70 percent of the total user base. The total user base is defined as the number of non-HOV vehicle drivers who drive the entire length of the I-15 HOV corridor. Participants in both qualitative and quantitative research studies resided in the eight zip code areas located north of the Express Lanes.

- **Targeted Groups**

  Targeted groups on the surveying included those commuting by single occupant vehicle (SOV), high occupant vehicle (HOV), transit, and vanpool (subsidized) during the peak period (i.e., when the HOV Express Lanes are open from 6:00 to 9:00 a.m. and from 6:00 to 9:00 a.m. and from 3:00 to 6:30 p.m.) in the I-15 corridor. To be included in the research program, participants had to reside north of Ted Williams Parkway/S.R. 56 and the destination of their commute trip had to be south of the I-15/S.R. 163 split.
Research Studies

The market research program included the following studies:

- A qualitative study involving three focus groups was held between August 29 and September 12, 1996. Households living within the primary market area were randomly called and asked a set of screening questions which dealt with driving patterns and income range. If the respondent met the requirements of the targeted groups, they were asked if they would like to participate in a focus group.

- A quantitative study involving a telephone survey of 400 randomly selected survey participants was conducted between September 17 and 29, 1996. All participants were required to reside within the primary market area and to fulfill specific travel requirements.

- A quantitative study involving 141 face-to-face interviews with survey participants was conducted between September 17 and 27, 1996. Surveys were conducted at three transit centers/bus stops located in Escondido and Rancho Penasquitos and at 11 park and ride locations in Escondido and Poway. All participants were required to fulfill specific travel requirements.

The baseline survey plan consisted of the following:

- Sample Frame
- Survey Methods
- Sampling Procedures
- Survey Questionnaires

The purpose of the baseline survey was to obtain information from individuals who could be effected by the proposed I-15 ExpressPass program. Each respondent was asked to respond to a series of questions dealing with their attitudes and awareness about the program, marketing related issues (price sensitivity), travel patterns, and general demographic characteristics. The sample frame represented the primary market area of the project. This primary market area consists of approximately 70 percent of the total user base.

Two survey methods were employed in gathering the data -- a random-digit-dialing telephone survey and a face-to-face survey. Two survey instruments were developed, one for each of the two survey methods. Copies of these survey instruments are in the Appendix A. Explanations of the sample frame, survey methods, and sampling procedures are provided below.
Sample Frame

The primary market survey area governed the sample frame. This area was defined using results from special runs of SANDAG’s transportation model. These runs show all origin and destination trips along the I-15 HOV lane corridor. Based on these model runs, the geographical area which includes 70 percent of the trips was designated as the primary market survey area. Calls for the telephone survey were made within this area. The sample of telephone numbers was drawn using GENESYS, a random digit dialing sampling system. The face-to-face survey interviews were conducted at park and ride facilities which lay within the primary market survey area (adjustments were made for park and rides located outside the primary area but that clearly service the area) and at transit centers.

In addition to the geographical element of the sample frame, a potential participant in either survey had to meet the following four characteristics:

- commute on I-15 going south,
- travel the entire distance between Ted Williams Parkway and the S. R. 163 / I-15 split,
- travel that area going south between 6:00 a.m. and 9:00 a.m. and/or north between 3:30 and 6:30 p.m. weekdays, and
- travel the route on at least 6 weekday trips per week.

Survey Methods

As mentioned above, two survey methods were used in conducting the baseline survey. A random-digit telephone survey of households in the primary market survey area was conducted. The second survey component was a face-to-face interview conducted at park and ride and transit centers within the survey area. Potential participants for the face-to-face survey were intercepted at these locations and asked an abbreviated telephone survey questionnaire. This survey was conducted during the same time period as the telephone survey.

Sampling Procedures

The sampling procedure for the telephone survey was straightforward. A representative set of randomly generated household telephone numbers was used during the survey. These numbers statistically represented the proportion of households within the primary survey area. A total of 400 households were surveyed within the area.

For the face-to-face survey a systematic sampling approach was used. The interviewer, upon arrival at the survey location, randomly selected a starting reference point and then attempted to survey the nth (random number) individual seen. This sampling of the nth individual continued until the survey period was completed for that day. The interviewer was instructed to complete as many interviews as possible within the survey time period for that location. One interviewer conducted surveys at each of the randomly selected park and rides and two to three interviewers conducted interviews at the transit centers.
Demographic Data

Demographic data for the eight zip codes comprising the primary market area was aggregated for demographic and economic indicators. Updated 1996 census data are contained in Appendix B including population, households, ethnicity, income, marital status, and other related indicators.

MAJOR FINDINGS

Primary Market Area

Data provided by SANDAG enabled us to extrapolate the following information regarding the primary market area of the I-15 Corridor being studied:

- The primary market area provides 70% of the traffic flow within the HOV corridor.
- The primary market includes an estimated 106,800 households. Of these households:
  - 44% drive the I-15 South,
  - 30% drive the entire I-15 corridor,
  - 19% drive at least six trips each week, and
  - 33% have more than one member driving the corridor.

Overall Impressions

- Focus Groups

Among focus group participants, there was general dissatisfaction with the rush-hour commute on I-15. Frequent commuters were extremely enthusiastic about being allowed access to the HOV lanes during peak travel times. Seven in ten participants expressed a “very” or “somewhat” favorable impression of the buy-in program.

In the focus groups, there was general support for the operational elements of the program whether it was a decal or an electronic transponder.
• Survey

In the telephone survey, reaction to the program was generally positive; although, only 43% of respondents thought that the program could make a difference in their commute.

82% liked the idea of using program revenues to pay for better transit service.

Reasons given for a favorable impression of program included “saves time” and “eases congestion.”

Reasons given for an unfavorable impression of program included “keep lanes for carpooling” and “too many will sign up.”

Telephone survey raw data is in Appendix D.

• Opposition by Carpoolers

In the telephone survey, carpool drivers were not opposed to the buy-in program.

However, in the field survey of HOV and transit users, response to sharing the carpool lane with single-occupancy vehicles was negative, with 41% being “very opposed”, 31% “somewhat opposed” and only 29% “not at all opposed.” Carpoolers may feel entitled to the exclusive use of the Express Lanes and resent their use by others who have not adjusted their lifestyles or made the decision and switched to rideshare. Intercept survey data is in Appendix E.

• Impact of Income, Gender, and Occupation

The research seemed to debunk the myth that these types of projects only benefit higher income commuters. Income, gender, and occupation do not appear to be influencing factors in response to the program. In the focus groups and telephone survey, a favorable impression about the program cut across income lines indicating that lifestyle considerations and time saving needs will receive greater weight than demographic or economic ones in making a decision to become an ExpressPass customer. In the long run, the profile of ExpressPass users should closely mirror that of the commuters in the adjacent freeway lanes.

• Time Savings

Telephone survey participants who always or sometimes drive alone, think they could save an average of 11 minutes on their one-way commute if they could use the carpool lanes. More than two thirds of the drive-alone participants (67%) believe the time they would save would encourage them to sign up for the buy-in program. More than anything else, ExpressPass will appeal to commuters who want to restore a measure of control in their lives in an area where they feel they have little. The promise of a faster more reliable trip everyday will have a great allure.
• **User Demographics**

Selected demographic information on these I-15 user survey participants include:

- median age of 39 years,
- 57% male, 43% female,
- median income of $58,374, and
- the three most frequently mentioned occupations were: Professional/Technical (36%), Sales/Clerical (22%), and Owner/Executive/Manager (16%).

• **Toll Rate**

In the focus groups, participants favored a per transaction payment system over a monthly subscription fee. However, in the telephone survey, the most popular payment option for using the carpool lanes was a fixed monthly fee for unlimited use (65%). Overall impression of the automatic fee program was positive. The amount which focus group participants were willing to pay was:

- $20 - $40 for monthly use, and
- $0.50 to $3.00 per transaction

In the telephone survey, willingness to participate in the program decreased as monthly rates increased.

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<th>Fixed Monthly Fee</th>
<th>Percent Willing to Pay</th>
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SUMMARY OF STUDY FINDINGS

This section summarizes the qualitative and quantitative studies performed for the market research program. A complete Focus Group report is contained in Appendix C. Raw data for the surveys is included in Appendix D and Appendix E.

- **Focus Group Findings**
  - There was a general dissatisfaction with the rush-hour commute on the I-15.
  - Frequent commuters were extremely enthusiastic about being allowed access to the HOV lanes during peak travel times.
  - Participants favored a per transaction payment system over a monthly subscription fee.
  - There was general support for the operational elements of the program whether it was a decal or an electronic transponder.
  - Amount participants would be willing to pay for the privilege was:
    - $20 - $40 for monthly use, and
    - $0.50 to $3.00 per transaction.

- **Telephone Survey Findings**
  - More than two thirds of survey participants (69%) “always drive alone” on their commute along the I-15. An additional 18% of participants “sometimes drive alone and sometimes carpool.”
  - The average length of time for participants one-way commute was 34 minutes.
  - Driving at the speed limit, the average length of time for the one-way commute was 27 minutes.
  - The average number of miles per one-way commute was 24 miles.
  - Participants who always or sometimes drive alone, think they could save an average of 11 minutes on their one-way commute if they could use the carpool lanes. More than two thirds of the drive-alone participants (67%) believe the time they would save would encourage them to sign up for the buy-in program.
  - Approximately two-thirds of the participants expressed a “very” or “somewhat” favorable impression of the buy-in program (see Table 1).
    - Carpool drivers are not opposed to the buy-in program.
• Reasons given for favorable impression of program include “saves time” and “ease congestion.”
• Reasons given for unfavorable impression of program include “keep lanes for carpooling” and “too many will sign up.”
• Income is not an influencing factor in response to the program.

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• Willingness to participate in the program decreases as monthly rate increases.

• The most popular payment for using the carpool lanes was a fixed monthly fee for unlimited use (65%).

• Overall impression of automated fee collection program was positive.
• Reaction to statements about the program included:
  • “It won't work because the government is running it” - 73% disagree.
  • “It won't make much of a difference in my commute” - 43% agree.
  • “The carpool lanes would be too crowded” - 54% agree.
  • “Single occupancy vehicles should be allowed to use the carpool lanes for a fee” - 73% agree.
  • “It would save no time” - 85% agree.
  • “There is the possibility that I would be charged for trips I didn't take” - 62% disagree.
  • “This is another case where the government could invade my privacy” - 80% disagree.
  • “I like the idea of using program revenues to pay for better transit service” - 82% agree.

• Selected demographic information on telephone survey participants include:
  • median age of 39 years,
  • 57% male, 43% female,
  • median income of $58,374, and
  • the three most frequently mentioned occupations were:
    Professional/Technical (36%)
    Sales/Clerical (22%)
    Owner/Executive/Manager (16%)

• Six in ten survey participants have either a cellular phone, a pager, or both.

• Overall impression of the program (Q12) crosstabulated by selected demographics resulted in no statistical differences when broken down by age, sex, income or occupation categories.

• The impression of the automatic fee program (Q17) crosstabulated by selected demographics resulted in no statistical differences when broken down by age, sex or occupation. The income crosstabulation shows an increase in the “very favorable” response as income increases. However, this result should be viewed with caution as the bases drop below 50 participants for the $100,000 - $149,000 category and the $150,000+ category.

• Taking all information into consideration, participants’ overall impression of the program (Q25) crosstabulated by selected demographics resulted in no statistical differences when broken down by participants sex or occupation. The income crosstabulation shows an increase in the “very favorable” response as income increases. Once again however, this result should be viewed with caution as the bases drop below 50 participants for the $100,000 - $149,000 category and the $150,000+ category. Looking at the crosstabulation by age, it is interesting to note that once
again the 35-44 year age group have the least favorable impression of the program.

**In-Field Survey Findings**

- Taking into consideration that surveys were conducted at bus stops and park and ride locations, it is consistent that the mode of transportation for most participants was either by bus or in a carpool or vanpool.

- The average length of time for participants’ one-way commute was 46 minutes.

- Driving at the speed limit, the average length of time for the one-way commute was 41 minutes.

- The average number of miles per one-way commute was 33 miles.

- Response to the program was not as favorable as in the telephone survey. More than seven in ten participants (71%) had a somewhat unfavorable or very unfavorable impression.

  - Reasons given for a favorable impression of the program included “ease congestion” and “saves time.”
  - Reasons given for an unfavorable impression of the program included “keep lanes for carpool” and “too many will sign up.”

- Response to sharing the carpool lane with single-occupancy vehicles tended toward the negative, with 41% being “very opposed,” 31% “somewhat opposed,” and 29% “not at all opposed.”

- Participants with a cellular phone and or pager accounted for 46%.

- Selected demographic information on these participants included:
  
  - median age of 45 years;
  - 53% male, 47% female;
  - median income of $78,500. The sampling plan together with the small sample size may contribute to the high figure; and
  - As for the telephone survey, the three most frequently mentioned occupations were:
    
    Sales/Clerical (44%),
    Professional/Technical (30%), and
    Owner/Executive/Manager (10%).