TRC9605

Market Analysis of Maintenance Activities

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Final Report

1998
TRC 9605
MARKET ANALYSIS OF MAINTENANCE ACTIVITIES

FINAL REPORT

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Sponsored By
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EXECUTIVE SUMMARY

- TRC9605 - Market Analysis of Maintenance Activities - was designed to obtain public attitudes and considerations regarding maintenance activities routinely conducted by the Department in an attempt to measure public satisfaction with our maintenance program.

- In the initial stages of the project, the Principal Investigator conducted Focus Group activities on Arkansas State University Campus to aid in developing the survey methodology, techniques, and forms to be used.

- At the time scheduled for the first year surveys, it was determined that the Department would be better served if we did not involve the public in our activity.

- At the time scheduled for the second year surveys and without the first year surveys, the Research Section developed a mail-back questionnaire to distribute to drivers during routine Origin and Destination data collection activities. Again it was determined that the Department did not want us to involve the public in our activity.

- As the project had been delayed for two years, we re-entered negotiations with the Principal Investigator and reassessed the likelihood of bringing the project to a successful conclusion. In these negotiations we mutually agreed to terminate the project. There will be no results to implement from this project.

- Results from similar studies conducted by other states have been received and will aid in this area.
Activity Schedule

SPRING 1996

A focus group meeting was planned and conducted in March of 1996. Fifteen residents of northeast Arkansas met with Joe Horsley and Sarath Nonis for about two hours on the Arkansas State University campus for the purpose of helping identify highway maintenance issues and concerns. The group represented a cross-section of residents and business people in Craighead, Greene, and Lawrence counties. A summary of the Focus Group activity and results are attached in Appendix A.

In addition, a literature review was conducted and information from other similar projects was collected for consideration in designing and planning the implementation of this study.

SUMMER/FALL 1996

The results of the focus group meeting were evaluated and used to begin designing a survey document to be used in conjunction with highway maintenance activities at various locations around the state. The project research committee met in Little Rock and the results of the focus group meeting were reviewed. Random telephone surveys within ZIP code defined geographic areas were chosen for the project. The areas chosen were to be coordinated with current maintenance activities underway or recently completed.

Several draft surveys were developed and tested on students and faculty at ASU and a small group of Jonesboro residents. These tests and subsequent revisions were used to develop the final survey document. This survey document was routinely tested with a number of phone calls in the Jonesboro area and found to be satisfactory. No actual data was compiled or analyzed. Appendix B is a copy of the final survey report.

WINTER 1996/SPRING 1997

Several discussions were held with AHTD about the best timing and locations for conducting surveys during the 1997 maintenance season. The high profile and politicized highway funding debates throughout the state were determined to have significant political influence on the findings of this project and the actual surveys were postponed. The project is currently indefinitely delayed and inactive.
Appendix A

FOCUS GROUP STUDY

Purpose of the Focus Group Study

Conducted to determine the awareness and expectations of motorists. How well these expectations are met will result in either satisfaction or dissatisfaction with their driving experiences.

Topics of Discussion

1. Maintenance activities they had noticed during the last year.
2. Particular reasons for remembering these maintenance activities.
3. Road maintenance activities that have been most memorable.
4. Particular reason for remembering them as memorable.
5. Maintenance activities that resulted in good driving experiences.
6. Reasons as to why they were being considered as positive experiences.
7. Recommending five innovative ways of conducting highway maintenance activities to make driving more comfortable.

RESULTS

Reasons for Remembering Maintenance Activities

1. Hazardous (dangerous) road conditions
2. Flagmen
3. Time frame
4. Quality of maintenance activities
5. Gravel trucks
6. Road signs
1. **Hazardous (dangerous) road conditions**

   Shoulder not being wide enough

   Shoulder surface being a few inches lower than the main surface

   Difficulty for wide vehicles to pass through

   Motorists failing to reduce their driving speeds (need proper speed control management)

   (Having double fines for violators of speed limits)

   Wet tar getting stuck on the car

   Stones hitting the body of the car

   Difficulty in clearly seeing road entries and exits when it is dark

   Not having standardized bypasses

2. **Flagmen**

   Traffic being abruptly stopped for no apparent reason

   Difficulty in seeing the flagman from a distance

   Flagman/crew being discourteous

   Flagman/crew being helpful (informative)

   Abruptly finding a flagman (going down a hill)

3. **Time Frame**

   Construction work doesn’t seem to ever get finished

   Seems like when one project is completed something else gets started

   They seem to drag these projects longer than necessary
(Conducting maintenance activities during off-peak times)

Traffic being held for long periods of time without any information being provided about the reason for the delay

Work to be conducted on a continuous basis rather than in slow intervals

4. **Quality of Maintenance Activities**

Some patch work they do is embarrassing

Long straight stretches of asphalt layers

Sometimes center lanes nor edge lanes are clearly marked

Seeing people idle (e.g., talking, watching, etc.)

Poor road condition in some of the railway crossings (roads not being maintained)

5. **Gravel Trucks**

Gravel trucks seem to be driven rather recklessly

Possible damages to the windshield due to flying rocks from these gravel trucks

6. **Road Signs**

Road signs being inadequate. Not knowing where I am supposed to go

Road exits and entries being changed daily

Determining where to exit from is a problem

Approaching exits and entries without prior warning

Having signs reminding about exits and entries to give motorist adequate time

Not having warning sign to inform an approaching flagman
Positive Experiences They Have Had

Having wild flowers
Nicely mowed grass
Well landscaped interchanges
Beautiful trees
Having low maintenance plants such as clovers
Clean highways (trash being picked up regularly)

Rank Ordering of the Five Innovative Maintenance Activities
Recommendations to the Highway Department

1. Accountability
Making sure resources are used to the fullest extent and making public aware of how money was spent

2. Keep Public Informed
Keep public informed about activities undertaken in these construction sites and especially with delays

3. Better Lines
Lines must be clearly visible at all times

4. Timing of Work Schedule

5. Maintenance activities to be conducted during off peak hours.

6. Beautification
Keeping highways beautiful and clean
Appendix B

Survey Instrument
LLO: I'M CALLING ON BEHALF OF THE TRANSPORTATION MANAGEMENT PROGRAM AT ARKANSAS STATE UNIVERSITY. THIS IS NOT A SALES CALL, BUT A REQUEST FOR YOU TO HELP US COLLECT INFORMATION ABOUT WHAT PEOPLE IN ARKANSAS THINK ABOUT STATE HIGHWAY MAINTENANCE ACTIVITY. YOUR COOPERATION COULD HELP PROVIDE THE STATE BETTER INFORMATION FOR PLANNING AND CORRELATING MAINTENANCE PROJECTS.

I WOULD LIKE TO ASK YOU TO RESPOND TO A LIST OF STATEMENTS ASKING YOUR OPINIONS ABOUT HIGHWAY MAINTENANCE. PLEASE SCORE HOW IMPORTANT EACH STATEMENT IS TO YOU. THERE ARE NO RIGHT OR WRONG ANSWERS, JUST YOUR HONEST OPINION OR COMMENT IS WHAT MATTERS.

DO YOU HAVE ABOUT FIVE MINUTES?

1. Yes (go to question # 1)
2. No (read the following)

Because your response is extremely important for the validity of this study, can I call you some other time that is more convenient to you?

1. Yes (ask for the date and time)

Thank you for your time.

Re call on ____________________________ at ________

PART I

The following set of statements relate to one's feelings about driving conditions while HIGHWAY MAINTENANCE ACTIVITIES are being conducted. There are no right or wrong answers. Just tell us how important or unimportant the following are to you personally as a motorist when HIGHWAY MAINTENANCE (REPAIR) ACTIVITIES are being performed. A 5 means you consider the driving condition very important, a 4 means you consider the driving condition to be important, a 3 means you consider the driving condition to be neither important nor unimportant, a 2 means you consider the driving condition to be unimportant, and 1 means you consider the driving condition to be very unimportant.

5 = VERY IMPORTANT
4 = IMPORTANT
3 = NEUTRAL
2 = UNIMPORTANT
1 = VERY UNIMPORTANT

Motorists complying with reduced speed limits while maintenance activities are being performed
Roads with shoulders
Preventing tar getting stuck in your vehicle
Preventing flying objects (e.g., stones) from damaging your car
Clearly visible road signs (markings)
Be provided information about delays
Adequate warning prior to unusual road conditions (e.g., loose gravel, wet tar etc.)
Ability to see the flagman from a safe distance (safe stopping distance)
Courtesy of flag crew
Double fines for motorists not complying with reduced speed limits
Timely information about abrupt stops due to state highway road maintenance activities
Flagman that doesn't confuse the motorists
Adequate lane width in de-tours
Flagman that direct traffic in a consistent manner
Conducting maintenance activities during off peak hours
Traffic not being held for long without sufficient information being provided about the reason for the delay
Continuous work on maintenance projects once started
Completing maintenance activities as soon as possible
Preventing vehicle damage that maybe caused by material falling from gravel trucks
Clearly marked state highway project
Keeping public informed about highway maintenance schedules and activities that are in progress
Clearly visible entries and exits where maintenance are being conducted
Initial signs about approaching entries and exits to be at a safe distance so that the motorist has adequate time change lanes if required

Letting public know how much highway maintenance projects cost

Keeping public informed about the length of delays to be expected while driving at locations where highway maintenance activities are in progress

Safe road conditions in general

PART II

Next I am going to read to you a list of conditions that a motorist may experience once road maintenance activities have been performed and completed. Please tell us how IMPORTANT or UNIMPORTANT the following are for you personally as a motorist. A 5 means you consider the highway condition very important, a 4 means you consider the highway condition to be important, a 3 means you consider the highway condition to be neither important nor unimportant, a 2 means you consider the highway condition to be unimportant, and 1 means you consider the highway condition to be very unimportant.

1. Very Unimportant
2. Unimportant
3. Neither Unimportant Nor Important
4. Important
5. Very Important

Adequate shoulder width (e.g., width size of a mid-size car)
Shoulder surface to be at the same level as the road surface
Roads with shoulders
Clearly visible road signs (markings)
Roads without pot holes and/or cracks
Quality appearance of patch work once they are completed
Long straight stretches of asphalt layers
Clearly marked centers and/or edge lanes
Safe road conditions at railway crossings
Durability of highway repair (maintenance) work
Clearly marked state highways (e.g., road signs)
Clearly visible entries and exits
Initial signs about approaching entries and exits to be at a safe distance so that the motorist has adequate time change lanes if required
Keeping public aware of how resources are allocated to highway maintenance projects
Keeping public informed about highway maintenance activities that are in progress
Clearly visible signage
Having wild flowers
Nicely mowed grass by the side of the highways
Well landscaped interchanges
Beautiful trees by the side of the highways
Having low maintenance plants such as clovers
Clean highways (e.g., Trash being picked regularly)
Beautiful highways

PART III

Now, think about your experiences as a motorist while STATE (emphasize) HIGHWAY MAINTENANCE ACTIVITIES are being performed here in Arkansas. Please compare your perception of STATE HIGHWAY DEPARTMENTS PERFORMANCE on each of the attributes against the performance level you believe an excellent HIGHWAY DEPARTMENT can and should provide (e.g., Your desired service level). There are no right or wrong answers—just select the number that you feel reflects your perception of how the performance of STATE'S HIGHWAY MAINTENANCE ACTIVITIES compare with your desired service level.

1. Much Lower Than My Expectations
2. Lower Than My Expectations
3. About The Same As My Expectations
4. Higher Than My Expectations
5. Much Higher Than My Expectations
maintenance activities are in progress.

1. having safe road conditions
2. having adequate shoulder width (e.g., width size of a mid-size car)
3. having roads with shoulders
4. having lane width in de-tours
5. Enforcing motorists comply with reduced speed limits while maintenance activities are being performed
6. Handing in double fines for motorists not complying with reduced speed limits
7. Preventing tar getting stuck in your vehicle
8. Preventing flying objects (e.g., stones) from damaging your car
9. Having clearly visible road signs (markings)
10. Having warning prior to unusual road conditions (e.g., loose gravel, wet tar, pot holes, etc.)
11. Providing timely information about abrupt stops due to state highway road maintenance activities
12. Not being stopped abruptly
13. Ability to see the flagman from a safe distance (safe stopping distance)
14. Courtesy of flag crew
15. Provide information about delays
16. Flagman that doesn't confuse the motorists
17. Flagman that direct traffic in a consistent manner
18. Conducting maintenance activities during off peak hours
19. Traffic not being held for long without sufficient information being provided about the reason for the delay
20. Traffic not being held for too long
21. Continuous work on maintenance projects once started
22. Completing maintenance activities as soon as possible
23. Clearly marked centers and/or edge lanes
24. Maintenance crew not idling or talking
25. Safe driving practices of state vehicles participating in highway maintenance work (e.g., gravel trucks)
26. Preventing vehicle damage that maybe caused by material falling from gravel trucks
27. Clearly marked state highway (e.g., road signs)
28. Having a warning sign about an approaching flagman at a safe distance so that you have sufficient time to slow down
29. Clearly visible entries and exits where maintenance are being conducted
30. Initial signs about approaching entries and exits to be at a safe distance so that the motorist has adequate time change lanes if required
31. Keeping public aware of how resources are allocated to highway maintenance projects
32. Keeping public informed about highway maintenance activities that are in progress
33. Keeping public informed about the delays to be expected while driving at locations where highway maintenance activities are in progress
34. Clearly visible signage

PART IV

Now, think about your experiences as a motorist while STATE (emphasize) HIGHWAY MAINTENANCE ACTIVITIES are performed and completed here in Arkansas. Please compare your perception of STATE HIGHWAY DEPARTMENTS PERFORMANCE on each of the attributes against the performance level you believe an excellent HIGHWAY DEPARTMENT can and should provide (e.g., Your desired service level). There are no right or wrong answers-just select the number that you feel reflects your perception of how the performance of STATE'S HIGHWAY MAINTENANCE ACTIVITIES compare with your desired service level.

1. Much Lower Than My Expectations
2. Lower Than My Expectations
3. About The Same As My Expectations
4. Higher Than My Expectations
5. Much Higher Than My Expectations

Once Highway maintenance activities have being completed there is.

1. Safe road conditions
2. Adequate shoulder width (e.g., width size of a mid-size car)
3. Shoulder surface to be at the same level as the road surface
4. Roads with shoulders
5. Clearly visible road signs (markings)
6. Roads without pot holes and/or cracks
7. Quality appearance of patch work once they are completed
8. Long straight stretches of asphalt layers
Clearly marked centers and/or edge lanes
Road conditions in railway crossing
Durability of highway road repair (maintenance) work
Clearly marked state highway (e.g., road signs)
Weather-beaten signs
Initial signs about approaching entries and exits to be at a safe distance so that the motorist has adequate time change lanes if required
Keeping public aware of how resources are allocated to highway maintenance projects
Keeping public informed about highway maintenance activities that are in progress
Clearly visible signage
Having wild flowers
Nicely mowed grass
Well landscaped interchanges
Beautiful trees
Having low maintenance plants such as clovers
Clean highways (e.g., Trash being picked regularly)
Beautiful and clean highways

PART V

What is your age? __________________________

During a week on average what is the distance you drive? __________________________

Gender (do not read):

Male 1
Female 2

THANK YOU FOR YOUR TIME