



TRC9605

**Market Analysis of
Maintenance Activities**

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Final Report

1998

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MARKET ANALYSIS OF MAINTENANCE ACTIVITIES

FINAL REPORT

Performed By

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Sponsored By

Arkansas State Highway And
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Planning And Research Division

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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

7. Positive experiences they have had

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

7. **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

Maintenance activities to be conducted during off peak hours.

6. Beautification

Keeping highways beautiful and clean

Appendix B
Survey Instrument

HELLO: 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 road 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 DEPARTMENT'S 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. . . .

- _____ having safe road conditions
- _____ having adequate shoulder width (e.g., width size of a mid-size car)
- _____ having roads with shoulders
- _____ having lane width in de-tours
- _____ Enforcing motorists comply with reduced speed limits while maintenance activities are being performed
- _____ Handing in double fines for motorists not complying with reduced speed limits
- _____ Preventing tar getting stuck in your vehicle
- _____ Preventing flying objects (e.g., stones) from damaging your car
- _____ Having clearly visible road signs (markings)
- _____ Having warning prior to unusual road conditions (e.g., loose gravel, wet tar, pot holes, etc.)
- _____ Providing timely information about abrupt stops due to state highway road maintenance activities
- _____ Not being stopped abruptly
- _____ Ability to see the flagman from a safe distance (safe stopping distance)
- _____ Courtesy of flag crew
- _____ Provide information about delays
- _____ Flagman that doesn't confuse the motorists
- _____ 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
- _____ Traffic not being held for too long
- _____ Continuous work on maintenance projects once started
- _____ Completing maintenance activities as soon as possible
- _____ Clearly marked centers and/or edge lanes
- _____ Maintenance crew not idling or talking
- _____ Safe driving practices of state vehicles participating in highway maintenance work (e.g., gravel trucks)
- _____ Preventing vehicle damage that maybe caused by material falling from gravel trucks
- _____ Clearly marked state highway (e.g., road signs)
- _____ Having a warning sign about an approaching flagman at a safe distance so that you have sufficient time to slow down
- _____ 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
- _____ Keeping public aware of how resources are allocated to highway maintenance projects
- _____ Keeping public informed about highway maintenance activities that are in progress
- _____ Keeping public informed about the delays to be expected while driving at locations where highway maintenance activities are in progress
- _____ 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 DEPARTMENT'S 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. . . .

- _____ Safe road conditions
- _____ 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
- 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