

## **IV. Opinion Surveys Documentation**

### **A. Introduction**

The state of Iowa and its cities and counties are legally responsible for managing roadway access to various types of properties (e.g. residential, commercial, recreational). The Iowa Department of Transportation's Access Management Task Force was created to establish and promote the concept of access management. Access management refers to the control of the design and operation of driveway and street connections in order to improve traffic safety, improve access to businesses and homes, reduce traffic congestion, and protect costly roadway investments.

It is difficult for state agencies to establish access management programs without involving members of the public (motorists, businesses, public officials such as the mayor, council members, school officials) that are affected by the access management. To accomplish the Task Force's goals, the research team from the University of Northern Iowa was assigned the following responsibilities:

- Develop a methodology for surveying the motorists, businesses, community leaders (mayor, council members, and school administrators) at the five selected locations — Ames, Ankeny, Clive, Fairfield, and Spencer. Types of roadway modification vary: Two-way left-turn lane at Ames and Spencer, driveway consolidation at Fairfield and raised median at Ankeny and Clive.
- Design questionnaires for surveying motorists/business customers, business owners or managers, and public officials.
- Collect data from the three groups of public.
- Write a report and present findings and conclusions.

### **1. Methodology**

After reviewing the literature, questionnaires were developed. They were revised several times based on the feedback received from the Task Force members. Using systematic sampling techniques, businesses were selected for participation in the study. The sample was finally adjusted to make sure that all types of businesses were represented, especially ones with high traffic such as fast food restaurants and grocery stores. Sample size for each site was determined based on the number of businesses affected by roadway modification.

Motorists were surveyed on the business premises or in the immediate vicinity. Most motorists contacted completed the surveys on the spot, while some took the surveys and mailed them in later. The following public officials were contacted to participate in the study: mayors, council members, and school administrators.

In total, we received 63 completed surveys from the business owners/managers, 65 surveys from motorists/business customers, 10 surveys from public officials and 4 surveys from school superintendents. In order to encourage a higher response rate, motorists who were approached to participate in the survey were told that their names would be placed in a drawing which involved two prizes: one for a \$50.00 Pizza Hut gift certificate and the other for a \$100.00 gift certificate good at any Target store. A drawing was made in September and the two certificates awarded to the two winners.

### **2. Results**

For all of the five sites surveyed, the overwhelming majority of the target groups surveyed (businesses, motorists, and public officials) supported the current roadway modification after weighing the pro's and con's. A majority of them considered the modified roadway to be safer with smoother traffic flow and better access to the businesses. For all of the sites surveyed, a solid majority of business respondents didn't report any impact on vehicular access to their businesses.

A clear majority of business respondents reported either same level of sales or an increase in sales after the current modification. In total, eight businesses either moved or closed their operations. Several of these businesses were interviewed to ascertain the reason for the move. Not all businesses that moved were in direct response to the roadway modifications. However, several did experience declines in sales. Respondents' comments about roadway configuration were mixed, with comments being more positive than negative. Some business owners/managers consented to participate in a video-taped interview.

From the limited study of five sites, it is apparent that the roadway modifications had generally positive effect on the three types of public groups surveyed. In spite of the variety of roadway modifications at five sites, it is very noteworthy to see the overall consistency in responses from the three groups surveyed. It should be noted, however, due to small sample sizes, care should be taken not to generalize the results to the target groups or other sites in the state.

## **B. Research Design and Methodology**

This section describes the methodology used for the following three types of surveys:

1. surveys of motorists
2. surveys of business owners and managers
3. other surveys (city officials, school administrators, etc.)

The same methodology was used for all of the five sites surveyed.

### **1. Motorist Surveys**

Two graduate students from the University of Northern Iowa went to each of the five sites and distributed 99 surveys, in person, to each of the motorists, or business customers, who were at or near the businesses that were located close to the roadway modifications. The target for the number of completed surveys to each site depended on the number of businesses affected by the roadway modification. Most of the respondents receiving the surveys completed the questionnaires right on the spot. A small portion of respondents returned the surveys by mail. In total, sixty-five respondents completed the surveys out of the 99 surveys that were distributed, representing a response rate of 66%. The response rates for the motorist surveys varied from a low of 53.33% at Fairfield to a high of 77.14% at Ames. The low response rate at Fairfield can be attributed to the RAGBRAI bikers rally held during the same period. Response rates for the motorist surveys at each site are as follows:

- Ames 77.14%
- Ankeny 60.00%
- Clive 65.00%
- Fairfield 53.33%
- Spencer 57.14%

### **2. Survey of Business Owners and Managers**

Another group that was surveyed was owners and managers of the businesses located along the roadway that was modified. We used a two-step process to select the businesses. First, from the list of businesses located along the roadway, businesses were selected based on the systematic sampling method. Then, if a particular type of business was over-represented, it was replaced by the type of business that was under-represented. Also, businesses with heavy traffic flow (e.g. fast food restaurants and grocery stores) were included.

Two graduate students from the University of Northern Iowa met the business owners/managers of the selected businesses and personally administered the surveys. In some cases, the owners and managers took the surveys and mailed them later. A total of 63 completed surveys were received out of 78 surveys distributed at the five sites. The response rates varied across sites with a low of 61.54% at Fairfield and a high of 100% at Ames. The main reason for the low response rate at Fairfield was the RAGBRAI bicycling rally held during the same time. Response rates for the individual sites are as follows:

- Ames 100%
- Ankeny 70.59%
- Clive 76.92%
- Fairfield 61.54%
- Spencer 84.82%

### **3. Agency Surveys**

Surveys were also conducted among local government and public officials. They included mayors, council members, and school administrators. They were first contacted by telephone and later interviewed by the graduate students. In some cases, they took surveys and returned them by mail at their convenience. Out of 14 officials surveyed, we received 10 completed surveys. Mayors for Ankeny, Fairfield, and Spencer did not respond. The school superintendent at Clive was not included as there is no school close to the roadway modification.

### **4. Questionnaire Development**

Questionnaires for the three groups surveyed were developed after reading the relevant literature sent by CTRE. A cover letter also was attached explaining the purpose of the survey. To increase the survey response rate among the motorist group, survey participants were informed about the opportunity to win a raffle for two prizes, drawn from those returning the surveys. Several revisions were made based on the input received from the Task Force members. Questionnaires used for data collection are shown in Appendix 1, 2, and 3.

### ***C. Survey of Business Owners and Managers***

Results from business surveys are discussed below for each site.

#### **1. Ames**

The roadway modification involved installing two way left-turn lanes along the corridor. All of the 22 respondents from the business surveys said that they were familiar with the roadway modification. About 90.9% of them had been at that location before the roadway modification was done. When asked about the influence of roadway modification on truck deliveries to their businesses, 54.6% of them said that they were not affected. Those who responded positively to the question expressed satisfaction with the modification as the modification provided better access for many of them.

In terms of impact of modification on sales, 73% said their sales remained the same and about 18% said their sales increased. The roadway improvement leads to a more desirable environment as 63.64% responded positively. According to the business owners and managers, only 27% of their customers complained about access to their businesses. An overwhelming majority of business respondents (91%) supported the current modification, considering the trade-off between the motorists' convenience, smooth traffic flow, safety, and effects on businesses. Only two businesses (a real estate office and an auto parts store) moved out that area as a direct result of the current roadway configuration, and three businesses were adversely affected by the modification.

For questions on roadway safety, traffic flow, and left turns, most respondents strongly agreed that the roadway modification had a positive impact. In terms of demographics of the respondents, 82% of them were male and 18% female. Out of those who completed the surveys, 55% were owners and 45% were managers. Over half of the businesses had 21 employees or more. Sixty percent of the respondents agreed to participate in a video-taped interview.

#### **2. Ankeny**

The roadway modification at this site involved installing raised median along the corridor. The majority of respondents said they were familiar with the roadway modification. All businesses were in operation at that location prior to the year the roadway was modified. Roadway modifications did not affect vehicular access to the businesses. About 67% of the respondents reported that sales increased or had remained the same after the roadway was modified. Most of them acknowledged that roadway improvement leads to a more desirable business environment and very few customers complained about access to their businesses.

Recognizing the trade-off between the motorists' convenience, smooth traffic flow, safety, and effects on businesses, the current roadway modification received support from all respondents (100%). It was interesting to know that none of the businesses moved out of the area as a direct result of roadway modification. Respondents generally felt the roadway to be safer, with smoother traffic flow, and easier left turns resulted from the roadway modification. None of the businesses were adversely affected by the improvements.

In terms of demographics of the respondents, 75% of them were male and 25% female. Over half of them were managers with the rest divided between owners and presidents. About 83% of the respondents agreed to participate in a video-taped interview.

#### **3. Clive**

The roadway modification at Clive involved installing raised median along the corridor. Ten businesses

participated in the study, and all of them were familiar with the roadway modifications. These businesses were also in operation at that location prior to the modification. About 40% of the businesses surveyed reported that the modifications affected vehicular access to their establishments. However, they did not mention how it affected them. Sales of 90% of the businesses surveyed either remained the same or had increased, and business environment improved as a result of roadway modification. However, half of the respondents said that the customers complained about access to their businesses. Considering the trade-off between costs and benefits, a majority (70%) of them supported the current roadway configuration.

Their perceptions of the impact of roadway modification on safety, smooth traffic and ease of driving were less positive compared to responses obtained from other sites. It should be noted that Clive has experienced a dramatic increase in traffic along the improved roadway modifications. As a result of roadway modification, four businesses were either closed or moved out of the area. They agree that the roadway is safer with smoother traffic flow and better access after the roadway modification. In the opinion of one respondent, all businesses with an island (raised median) were affected as a direct result of the roadway modification.

In terms of demographics, 90% of them are male and 10% female. Sixty percent of the respondents were managers and the rest were owners. Only 30% of the respondents agreed to participate in a video-taped interview.

#### **4. Fairfield**

The roadway modification at Fairfield involved driveway consolidation along the corridor. Five of the eight respondents were not familiar with the roadway modification. Four of the businesses surveyed moved into their current locations along the corridor after the roadway modification. About 29% of them said that the modifications affected vehicular access to their businesses. Sales either remained the same or had increased for all of the businesses surveyed.

Most of the respondents agreed that the roadway improvement leads to a more desirable business environment. No complaints were received from the customers about the roadway modification. Only two of the eight surveyed did not support the current roadway configuration. None of the businesses were closed or adversely affected as a direct result of the roadway modification. Respondents somewhat agreed that the roadway is safer with smoother traffic flow and convenient access, after roadway modification. They were neutral about easiness of making left turns.

In terms of gender, about 63% of them are male and 37% female. A large majority (75%) of the respondents were managers. About half of those surveyed have 30 or more employees. Only one person was willing to participate in a video-taped interview.

## **5. Spencer**

The roadway modification at Spencer involved installing two way left-turn lanes along the corridor. All of the eleven people surveyed are familiar with the roadway modification. They also had their businesses in operation at that location prior to the year the roadway was modified. Only 18% of them said that the roadway modifications affected vehicular access to their businesses. A majority of the respondents (81%) reported their sales to be the same or had increased after the roadway modification. About 82% of them reported a more desirable business environment after the modification. Only one business received complaints from customers about the roadway modification.

There was an overwhelming support for the roadway modification (100%), considering the trade-off between the motorists' convenience, smooth traffic flow, safety, and effects on businesses. As reported by respondents, none of the businesses closed or moved out of the area as a direct result of roadway modification. According to the respondents' knowledge, no business was adversely affected by the roadway modification.

Those surveyed reported that the roadway is safer with smoother traffic flow and better access to the businesses, after the roadway modification. In terms of demographics of the respondents, a majority of them (73%) are male. Out of the eleven respondents, 55% were managers and 36% were owners. Number of employees at their businesses varied from 2 to 30. About half of the respondents are willing to participate in a video-taped interview.

## ***D. Survey of Motorists and Business Customers***

### **1. Ames**

Almost all of the 27 motorists surveyed were familiar with the roadway modification. Most of them (96.3%) also had driven on the road before the roadway was modified. Motorists agreed that the roadway is safer now with better traffic flow and easier access to the businesses, after the roadway modification. They also believe that it is easier to make left turns now, compared to the condition before the roadway was modified.

A majority (96.3%) of the respondents supported the roadway modification considering motorist convenience, smooth traffic flow, safety, and effects on businesses. In terms of gender, the respondents were equally divided between male and female. Age of the respondents varied from 18 to 77 years.

### **2. Ankeny**

Out of nine motorists surveyed, four of them were neither familiar with the roadway modification nor drove on the road before it was modified. The respondents somewhat agreed that the roadway is safer with better traffic flow and easier access to the business is available after the roadway was modified. They also said that it is easier and safer to make left turns than before.

They were unanimous about their support for the current roadway modification, considering motorist convenience, smooth traffic flow, safety, and effects on business. In terms of demographics, about 56% of the respondents are male and 45% female. Their age varied from 22 to 41 years.

### **3. Clive**

Only two of the thirteen respondents in the study were not familiar with the current roadway modification. Perhaps the same two motorists didn't drive on the road before it was modified. The motorists surveyed somewhat agreed that the roadway is safer, with better traffic flow and better access to the businesses since the modification. They agreed that left turns are safer and easier than before.

All but two motorists supported the current roadway configuration after considering factors such as motorists' convenience, smooth traffic flow, safety, and effects on businesses. In terms of demographics, their age varied from 21 years to 58 years. About 54% of the participants in the survey are male and 46% female.

### **4. Fairfield**

Out of the eight respondents, three of them were not familiar with the roadway modification. Hence, the subsequent results are based on only five respondents. The respondents somewhat agreed that the roadway is safer, with better traffic flow and easier access to the businesses since the modification was done. They also reported that it is easier to make left turns after the modification.

All of the five respondents unanimously supported the current roadway configuration, considering motorists' convenience, smooth traffic flow, safety, and effects on businesses. Out of five respondents, 3 were female and 2 were male. Their age varied from 22 years to 28 years.

### **5. Spencer**

Out of the eight motorists surveyed, only one was not familiar with the modification and two did not drive on

the road prior to modification. The rest of the results are based on six respondents. All six motorists in this study strongly agreed that the roadway is safer, with better traffic flow and easier access to businesses since the roadway was modified. They also said it is safer to make left turns now compared to the condition before modification.

The six respondents unanimously supported the current roadway configuration, considering factors such as motorists' convenience, smooth traffic flow, safety, and effects on businesses. In terms of gender of the respondents, four were male and two were female. Their ages varied from 23 years to 28 years.

### ***E. Surveys of Public Officials***

To get some feedback from public officials, mayors, council members, and school superintendents of schools were interviewed.

#### **1. Ames**

Completed surveys were received from the deputy superintendent of schools and a part-time mayor. Both were familiar with the roadway modification, and they also happened to drive on the road before it was modified. They both said that the roadway is now safer, with smoother traffic flow in the through lanes. They also agreed that motorists were not inconvenienced by the roadway modification, and they felt left turns to be better.

Both officials somewhat agreed on the increase of land development along the roadway. The school official and the mayor supported the current roadway configuration, considering motorists' convenience, smooth traffic flow, safety, and effects on businesses. Both received positive comments about the roadway modification from the public, and both officials served in the same position before and after the road was modified. The school official mentioned that it is tough turning left onto Duff Avenue. Both were willing to participate in a video-taped interview.

#### **2. Ankeny**

The two public officials that participated in the survey were a city councilman and the executive director of support services. Both agreed that the roadway is now safer, with smoother traffic flow in both lanes. The school representative had no opinion about the impact of modification on motorists' convenience. They both agreed on better left turns and increased usage of land after the modification.

Considering all factors, both supported the current modification. They received a lot of positive comments about the modification from the public. According to the school representative, the modification certainly enhanced community image and traffic safety for the children. The councilman agreed to participate in a video-taped interview.

#### **3. Clive**

The city manager and the mayor of Clive participated in the study. Both were familiar with the roadway modification and also drove on the road prior to it being modified. Both were positive about roadway safety, left turns, traffic flow, and motorists' convenience as a result of roadway modification. The mayor did not agree that land use increased after the modification, and the city manager did not offer any opinion at all on land usage. However, both supported the current roadway configuration. Both are willing to participate in a video-taped interview.

#### **4. Fairfield**

The superintendent of schools was the only person who responded to this survey. He was familiar with the modification and also drove on the road before it was modified. He agreed that the roadway is now safer, with better traffic flow and safer left turns. He received positive comment from the public.

## **5. Spencer**

The superintendent of schools and a city councilman (also part-time mayor) participated in the study. Both were familiar with the roadway modification, and both agreed that the roadway is now safer, with smoother traffic flow, easier left turns, and better convenience for motorists. Both officials support the current roadway configuration and have received positive comments from the public. The South Grand Avenue project greatly improved the appearance of the area, according to the councilman. Both respondents agreed to participate in a videotaped interview.

**F. Conclusions**

Based on the findings from the study, the following conclusions can be drawn. Since the sample sizes for all of the three groups of surveys were relatively small, care should be taken in not generalizing the findings for the entire target groups. However, we don't expect any systematic bias in the data collected. Accordingly, the following conclusions are more applicable for the three samples of respondents, rather than for the entire target groups.

1. A large majority of businesses surveyed, expressed the opinion that the roadway modifications created a somewhat more desirable business environment (see Table 25). After considering all of the factors such as motorists' convenience, smooth traffic flow, safety, and effects on businesses, an overwhelming majority of the businesses surveyed supported the current roadway modification. About 30% of businesses at Clive, however, did not support the modification (see Table 26). It should be noted that the level of business activities and the amount of traffic at Clive increased dramatically along the corridor when comparing to the other sites.

**Table 25: Percentage of Businesses Expressing the Opinion that Modification Created a Better Business Environment**

Ames	Ankeny	Clive	Fairfield	Spencer
86.6	91.7	60.0	87.5	81.8

2. A majority of motorists also showed a strong support for the current roadway access modifications (see Table 26).

**Table 26: Percentage Expressing Support for the Roadway Modifications**

	Ames	Ankeny	Clive	Fairfield	Spencer
Businesses	91	100	70	87.5	100
Motorists	96	100	92	100	100

3. A large majority of the businesses reported sales to be either the same or had increased due to the roadway modifications (see Table 27).

**Table 27: Percentage of Businesses Reporting Sales (Increase, Same, Decrease or Uncertain)**

	Increase	Same	Decrease	Uncertain
Ames	18.2	72.7	0.0	9.1
Ankeny	41.7	25.0	16.7	16.6
Clive	40.0	50.0	10.0	0.0
Fairfield	28.6	71.4	0.0	0.0
Spencer	36.4	45.4	0.0	18.2

**4.** As a direct result of roadway modification, four businesses at Ames and four at Clive were closed or moved out.

**5.** Most participants (businesses, motorists and public officials) agreed that the roadway are safer after the modifications, with better traffic flow and better access to the businesses. They also reported left turns to be easier after the modifications (see Table 28).

**Table 28: Perceptions After Roadway Modifications (Business and Motorists)**

	Ames	Ankeny	Clive	Fairfield	Spencer
Safer to drive on now:					
Businesses	1.72	1.67	2.50	2.13	2.00
Motorists	1.84	2.00	2.25	1.60	1.17
Traffic flow is better now:					
Businesses	1.63	1.50	2.30	2.00	1.27
Motorists	1.62	2.14	1.92	2.20	1.17
Not inconvenienced by the change in trying to get to destination:					
Businesses	1.68	2.25	2.70	1.50	1.63
Motorists	1.77	2.14	2.17	2.40	1.50
It is easier to turn left now:					
Businesses	1.68	1.92	1.70	2.75	1.73
Motorists	1.73	1.57	2.17	1.80	1.50

Based on scales: 1 (strongly agree) to 5 (strongly disagree)

6. No public official reported a decrease in land development after the roadway modification.

7. Some businesses were adversely affected by the roadway modifications--one at Ames, two at Fairfield, all businesses along the raised median at Clive and five businesses at Spencer.