

An Evaluation of a Kansas Open Streets Event's Impact on Businesses

Danielle Gauna, MPH¹, Jack Brown, MUA, R.S.¹, Kelsey Lu, M.S.¹, Matthew Martinez², Elizabeth Ablah, Ph.D., MPH¹

¹University of Kansas School of Medicine-Wichita, Wichita, KS

Department of Population Health

²City of Wichita Park and Recreation, Wichita, KS

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ABSTRACT

Introduction. Open Streets is an event that promotes physical activity among populations by encouraging city residents to walk and bicycle in streets blocked from motor vehicles. Engagement of businesses is a critical component of Open Streets. This study sought to evaluate the Open Streets ICT 2019 event's impact on adjacent businesses.

Methods. A 12-item novel survey was developed for this study. Businesses eligible for study participation included retail and non-retail (e.g., non-profits, churches) sites along the Open Streets ICT route in Wichita, Kansas. To understand how Open Streets ICT impacted businesses, the survey used Likert scale questions to prompt respondents to report sales and visitors experiences during the event. Additionally, respondents reported a percent difference in sales compared to a typical Sunday. A phenomenological approach was used to convey the experiences among study participants during Open Streets ICT.

Results. A total of 102 surveys were completed, a 42% response rate. Most businesses (56%, n = 56) reported being open during Open Streets ICT. Many businesses (72%) reported having "more" visitors compared to a typical Sunday. More than half reported they experienced new and regular visitors (54%, n = 30) from the event. Most businesses (64%, n = 36) reported a positive financial impact, and (52%, n = 29) having more sales than a typical Sunday.

Conclusions. Open Streets ICT increased sales and the number of visitors among businesses. Respondents reported they plan to participate in the 2020 Open Streets ICT, and if Open Streets ICT was offered twice a year. Finally, most participating businesses reported they recommend that other businesses participate in Open Streets ICT.

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INTRODUCTION

As the United States population becomes increasingly physically inactive, active transportation (human powered modes of transportation such as walking or bicycling)¹ serve as reasonable opportunities to increase activity among populations. However, an important barrier to engaging in recreational and active transportation is a concern for safety from motor vehicles.²

Open Streets is a public health initiative that aims to create safe environments from motor vehicles and promote recreational activity, with the potential for promoting active transportation long-term. The event temporarily closes streets from motorized vehicles to encourage hosting city residents to walk and bicycle along the closed streets.³⁻⁶ The event

is designed for residents to engage with neighbors, local businesses, and event sponsors.

Open Streets have the potential to transform communities by creating cultures of health, where all members of society are able to lead healthier lives now and in the future.⁷ Scholars suggested this can be accomplished by increasing the awareness of the importance of active transportation and creating a sense of community through social cohesion by bringing people from different backgrounds and ages together through activity in the community.^{5,8-11} In fact, many past Open Streets event attendees return to the next event because they have such a positive experience in a safe and active environment.¹² Approximately 497 Open Streets events occur in 27 countries with most occurring in Latin America.^{8,13}

The first Open Streets, "Ciclovía," emerged from a protest in Bogotá, Colombia on December 15, 1974.¹⁴ Five thousand Bogotáns protested against air pollution, traffic congestion, and the lack of public space for recreational activities. Between 1995 and 2000, the route was increased from 20 km (12 mi) to 121 km (75 mi) to reach different socioeconomic populations. In fact, participants in two Open Streets in Latin America, Bogotá and Santiago de Cali, were more likely to visit higher or lower social economic status neighborhoods than their neighborhood of origin.¹⁵ The Open Streets in Bogotá attracts about one million participants every Sunday.¹⁶ The event occurs every Sunday and holiday from 7 a.m. to 2 p.m., with a route length of 127.69 km (79 mi).¹⁴

Although Open Streets events are gaining popularity in the United States, many do not meet the definition from Sarmiento and colleagues: two events per month, with a minimum street closure of one kilometer (0.62 miles).⁹ However, Kuhlberg and colleagues¹⁰ used a broader definition for Open Streets in the United States: any free event held in a city where streets were closed to motorized traffic for a period of time and opened to residents to encourage physical activity. Previous studies in the United States have evaluated Open Streets events in major urban cities including: Los Angeles,¹⁷ San Francisco,^{12,18,19} San Diego,²⁰ Atlanta,²¹ and St. Louis,²² to rural cities such as Brownsville, Texas.²³ Each study reported positive public health impacts such as improved air quality,¹⁷ increased physical activity among event attendees,^{12,20-23} perceptions of safety during the event,^{12,21} and benefits among businesses.¹⁸⁻²²

Open Streets events often promote the services and products from businesses along the local route. Hosting an Open Streets on a route where businesses are located can be advantageous to the local economy.^{12,18} In fact, 68% of event attendees from an Open Streets event in St. Louis reported an increased awareness of participating businesses.²² Additionally, 82% of event attendees in Atlanta reported spending more than \$10 at Open Streets.²¹

The annual Open Streets event in Wichita, Kansas, "Open Streets ICT", began on a Sunday in September of 2017, from 12 p.m. to 5 p.m.²⁴ Open Streets ICT temporarily closed a four-mile route on Douglas Avenue, a major street in downtown Wichita, from motor vehicles.²⁵ The event was free to attend and designed to bring the community together to enjoy live music, food, street vendors, and support local businesses, all while residents were engaging in recreational or active transportation. Douglas Avenue is home to more than 300 local businesses, dozens of pieces of art, including 31 bronze sculptures, and includes the ICT

Pop-Up Urban Park, a gathering place for picnics and food trucks.²⁵ Douglas Avenue connects two diverse neighborhoods, Delano on the west end and College Hill on the east end.

Local businesses along the event route are critical stakeholders to the success and sustainability of Open Streets, as they can promote it and benefit from participating in the event. However, little was known about how Open Streets events impacted adjacent businesses and their revenue. Therefore, this study sought to evaluate the 2019 Open Streets ICT event's impact on adjacent businesses.

METHODS

Participants. Businesses eligible for participation in Open Streets ICT 2019 included any business two blocks (0.5 miles) north and two blocks south from the 4.1-mile route on Douglas. The route's endpoints were West Douglas and Glenn Street in the Delano neighborhood and East Douglas and Bluff Street in the College Hill neighborhood. Eligible businesses could participate in Open Streets ICT at no cost and qualified for a free 10 × 10-foot booth during the event.

Businesses eligible for participation in this study included any retail businesses and non-retail (e.g., non-profits, churches) sites along the route, or less than one block (0.25 miles) from the route, with the furthest business being 0.1 mile from the route. Participants eligible to complete the survey included owners, managers, or employees representing the businesses along the route, regardless of whether they participated in the 2019 Open Streets ICT.

Instrument. A 12-item novel assessment was designed for this study to understand how Open Streets ICT impacted businesses. The survey was created in Research Electronic Data Capture (REDCap®).²⁶ The survey prompted respondents to identify the type of business they represented (e.g., grocery, restaurant, service industry such as roofing). Respondents were prompted to report if the business was open during Open Streets ICT. If respondents reported that the business was not open during Open Streets ICT, they were prompted to provide a reason as to why the business was not open. Respondents who reported that the business was open during the event were asked additional questions to understand how the event impacted their business.

The survey prompted respondents who were open during the event to estimate the proportions of sales and visitors they experienced during the event compared to a typical Sunday afternoon (far fewer, fewer, about the same, more, or many more). To understand how Open Streets ICT 2019 influenced sales, the survey prompted respondents to report a percent difference in sales compared to a typical Sunday. To understand the type of visitors who visited the businesses during the event, respondents were asked if they experienced no increase in visitors, new visitors, regular visitors, or new plus regular visitors. Respondents also were asked if Open Streets ICT 2019 impacted their business financially (strongly negatively, somewhat negatively, no impact, somewhat positively, or strongly positively). Also, respondents were prompted to indicate if they would recommend that other businesses participate in Open Streets ICT. Finally, the survey offered open-ended questions: please provide your reason for not wanting to be open during Open Streets ICT or extend hours, please briefly describe these impacts, do you have any feedback or suggestions for improving Open Streets ICT? These open-ended questions allowed the research team to collect qualitative data about how Open Streets ICT 2019 affected businesses and

how Open Streets ICT can be improved.

Procedures. The recreation supervisor for the City of Wichita's Park and Recreation identified the need to conduct the survey and recommended that respondents would be more responsive to an anonymous online survey than an in-person administration of the survey. Several survey questions from a previous study were included.¹⁸ Additionally, questions were added by a Master of Public Health (MPH) student and the principal investigator to tailor the survey to Open Streets ICT. The study was approved by the Human Subjects Committee at the University of Kansas School of Medicine-Wichita.

An MPH student used Google Maps to identify the businesses on the Douglas route. A list of businesses with mailing addresses and telephone numbers was created to contact potential respondents. First, potential respondents were contacted by telephone to discuss the survey and consent process. If the respondent could not be reached by telephone, then the MPH student visited the business to make them aware of the project. If respondents agreed to participate in the study, they were asked to provide an e-mail address to receive the survey.

The survey data were managed in REDCap® hosted by the University of Kansas School of Medicine.²⁶ Data were collected between September 26 and October 20, 2019. The survey could be completed in less than five minutes, and participants could discontinue participation at any time.

Statistical Analysis. Data were analyzed using IBM® SPSS Statistics 25. Frequencies and percentages were generated for all quantitative variables. The average was calculated for the percent difference in sales compared to a typical Sunday. Two outliers were removed due to potential overestimation (1000%) or underestimation (-288%) of reported percent differences. Qualitative data were collected from respondent quotes derived from three open-ended items in the survey. An MPH student coded the quotes into themes and subthemes which were reviewed by the principal investigator. To analyze the qualitative data, the principal investigator and MPH student used an interpretive phenomenological approach to convey the experiences among respondents and how those experiences impacted their businesses during Open Streets ICT 2019.

RESULTS

Two hundred forty-six businesses were e-mailed a link to the online survey, and 102 surveys were completed; a 42% response rate. After removing two surveys where more than half of the items were not completed, the final sample size was 100 businesses. Most of the businesses from the sample (n = 95), were categorized as "retail" (64%, n = 61) as they sell tangible products. Another 36% (n = 34) were "non-retail businesses", which consisted of churches (n = 3), non-profits (n = 7), art galleries (n = 2), and businesses that provide services or do not sell tangible products (e.g., roofing, education; n = 22).

Fifty-six percent (n = 56) reported that their business was open during Open Streets ICT 2019 (Table 1). In fact, 46% of these businesses (n = 26) reported being open or extending their business' hours specifically because of Open Streets ICT.

Table 1. Responses from businesses along the Open Streets ICT route.

Survey item	Yes n (%)	No n (%)	Missing n (%)
Business opened or extended hours specifically for Open Streets ICT	26 (46)	30 (54)	0 (0)
Beneficial for business to participate in Open Streets ICT	46 (82)	7 (13)	3 (5)
Recommend other businesses participate in Open Streets ICT	50 (89)	4 (7)	2 (4)
Business will participate in Open Streets ICT next year	47 (84)	6 (11)	3 (5)

Nearly two-thirds of respondents (64%, n = 36) reported a positive financial impact from the event (Table 2). In fact, 52% (n = 29) reported having “more” sales than they would have on a typical Sunday. Respondents reported a percent difference in sales compared to a typical Sunday ranging from -80% to 200%. The average percent difference in sales was a 47% increase. The median percent difference in sales was 20%. Nearly three-fourths of respondents (71%, n = 40) reported having “more” visitors than a typical Sunday. More than half of respondents (54%, n = 30) reported they experienced new and regular visitors compared to a typical Sunday.

Table 2. Reported sales and visitors compared to a typical Sunday.

Survey item	Fewer n (%)	About the same n (%)	More n (%)	Missing n (%)
Proportion of sales compared to a typical Sunday	7 (13)	14 (25)	29 (52)	6 (11)
Proportion of visitors compared to a typical Sunday	8 (14)	7 (13)	40 (71)	1 (2)

Overall, 89% of respondents (n = 50) reported they would recommend that other businesses participate in Open Streets ICT, and 82% (n = 46) reported it was beneficial for them to participate in Open Streets ICT. Another 84% (n = 47) reported that their business planned to participate in the next Open Streets ICT.

Finally, three themes emerged from the qualitative data: reasons for closed businesses, impacts of Open Streets ICT on businesses, and recommended improvements for Open Streets ICT (Table 3). Subthemes for each theme also were captured. The first theme included reasons why businesses were not open, with five subthemes: closed on Sundays, not enough staff, closed but personally participated in Open Streets ICT, not a business that relies on foot traffic, and other event or circumstance.

The second theme included the impacts of Open Streets ICT on businesses with three subthemes: decreases in business, increase in sales, and increased awareness. Respondents reporting a decrease in business described decrease in sales, reservations canceled, or not enough visibility from the event having too many vendors. Respondents reporting an increase in sales suggested a return of investment on coupons, selling more products, or because they had an increase

in sales. Respondents reporting increased awareness suggested Open Streets ICT is an event that brings awareness and support of their business or products rather than an increase in their sales.

The third theme recommended improvements for Open Streets ICT with four subthemes: have Open Streets ICT more often, offer more activities, promote participating business and the event, and improve streets prior to Open Streets ICT. Respondents who reported to have Open Streets ICT more often suggested promoting the event. Respondents reported advertising for the Open Streets ICT was not sufficient. Those reporting that more activities needed to be added to Open Streets ICT suggested they want more activities in general, or they wanted activities implemented on both east and west sides of Douglas. Respondents reporting to improve streets prior to the event, suggested cleaning the streets, closing a major intersection (Hydraulic Street and Douglas), using detour signs, and having designated parking.

Table 3. Themes and subthemes in the qualitative data.

Theme (n = 3)	Subtheme (n = 12)
Reasons that some businesses were closed	Closed on Sunday (n = 27) Not enough staff (n = 4) Closed but personally participated in Open Streets ICT (n = 2) Not a business that relies on foot traffic (n = 5) Other event or circumstance (n = 3)
Impacts of Open Streets ICT on businesses	Decrease in business (n = 7) Increase in sales (n = 9) Increased awareness or new visitors (n = 17)
Recommended improvements for Open Streets ICT	Offer Open Streets ICT more often (n = 5) Offer more activities (n = 4) Promote participating businesses and event (n = 8) Improve streets prior to Open Streets ICT (n = 4)

Theme 1: Reasons that Some Businesses Were Closed. Businesses that were not open for Open Streets ICT 2019 (n = 44) reported the reasons that their businesses were closed for the event. Many respondents (n = 27) reported that the event was not held during normal business hours, or that their business usually was closed on Sundays. Additionally, respondents (n = 4) reported having insufficient personnel to staff the event: “We typically open for this event. This year we didn’t have enough staff available to work it. It’s always been good for business in the past.” Two respondents reported that although their businesses were not open for Open Streets ICT, the businesses did participate. One reported, “while our office was not open, we did have a table with water set up outside of our building so we could participate.” Another reported that their business is “normally closed on Sundays. We still celebrated with a Mariachi band and candy and games for passer-byes.” Two respondents reported their businesses do not rely on foot traffic. One reported, “it’s on the weekend and everyone is on bikes and looking to ride along the street, not enter buildings. ICT Open Streets seems more about activity outside vs. being open for people to come in off the street inside.” Another respondent reported, “people aren’t shopping for our items during this event and we aren’t generally open on Sundays. Promoted the business with outdoor displays two years ago and people were curious but that was it.” Some respondents reported they had to attend another event, such as a church event or family reunion, and some reported that the “timing was not good”.

Theme 2: Impacts of Open Streets ICT on Businesses. Few businesses (n = 7) reported a decrease in business during Open Streets ICT. The businesses described slower sales from streets being closed, reservations canceled, or not enough visibility from the event having too many vendors. One of these respondents reported as a restaurant, café, or bar, “last year we were packed for Open Streets, but this year it seemed that most of the people stayed on Douglas. We saw a \$4,000 drop in sales compared to open streets last year.” Additionally, a theatre company reported, “it made it incredibly difficult for our audience to get to the theatre. A lot of people called and canceled their reservations as this was our last show, and they could not exchange their date.” Another respondent reported, “so many vendors out there that we were completely overlooked.”

However, more respondents (n = 9) reported an increase in sales by either stating an increase in sales from a return of coupons, selling more products, or because they had an increase in sales. One respondent reported, “this is our favorite Sunday of the year. It is so great to see everyone on Douglas and we see a lot of new visitors too. Lots of beer sales and some merchandise sales too.” Another respondent reported, “doubled average sales for Sunday.” A respondent of a new business reported, “we’ve only been open 90 days, but it was our second busiest day.”

Another common sub-theme increased awareness of new visitors because businesses would identify Open Streets ICT as an event that brings awareness and support of their business or products. Specifically, they noted a lot of new or first-time visitors, and how those visitors learned about their business or product. One respondent reported, “We have seen more new customers come back to our store since the event. The event was very good for us in generating more awareness for our business.” Another respondent shared, “new customers, better visibility as people were walking instead of driving.” Also, another respondent reported, “Open streets ICT is amazing! Please continue to do this. It gets everyone out and about to help support local businesses.”

Theme 3: Recommended Improvements for Open Streets ICT. Offering Open Streets ICT more often was a recurring sub-theme among respondents. One respondent reported, “Everyone seemed to enjoy the day and was having fun with family, friends, or pets on Douglas. We had a lot of fun, too. Afterward, we discussed that it would make sense to have the event twice a year also.”

Other suggestions for improvement commonly reported by respondents included improving the streets prior to Open Streets ICT, such as providing “detour signage when streets are blocked off” and offering more activities. One respondent reported, “The crowd on the west end was smaller than years past and there was very little engagement.” Another respondent reported, “bring more things to both ends not just downtown.” Additionally, one respondent reported cleaning the streets prior to the event would be helpful. “Yes, it would be great to have the city sweepers clean the street and sidewalks prior to Open Streets so that the boulevard looks its best. Our volunteer team cleaned the sidewalk and street area near the curb so that walkers, bikers, and all didn’t trip over debris piles.”

Respondents reported the need to promote Open Streets ICT by “continuing to promote it to people outside the city core. We feel as

though people that don’t live in the area would really enjoy the day, but probably don’t know about it.” Also, respondents suggested that participating businesses could be promoted better. One respondent suggested a potential scavenger hunt for event attendees. “Encourage people to stop at our business. A map or list of participating businesses to check off might be cool and encourage an increase in business.”

DISCUSSION

This study suggested that businesses that participated or were open during the event reported an increase in visitors. This information was consistent with studies of Open Streets events in San Diego (CicloSDias), which reported an increase in the number of customers,²⁰ and San Francisco (Sunday Streets), which reported an increase in walk-in customer activity.¹⁹ This suggested that Open Streets events can promote local businesses by increasing the foot traffic along the route and attract new visitors. Additional research is needed to estimate the future economic impact of these additional visitors to participating businesses.

This study suggested that, on average, businesses that participated in Open Streets ICT in 2019 increased their sales by approximately 47% compared to a typical Sunday. This information was consistent with evaluations of CicloSDias, which reported a 50% increase in sales,²⁰ and Sunday Streets, which reported a 44% increase in sales and customer activities.¹⁹ The Sunday Streets evaluation also reported that every dollar spent at the event generated an output of \$9.32. This suggested that Open Streets events can impact participating businesses’ revenues positively. The increase in revenue might prompt business owners to participate in, promote, or sponsor the event. Moreover, engaging businesses’ interests in increased revenue may catalyze these critical event stakeholders to advocate for an increased number of Open Street offerings, therefore contributing energy and strength to grow and sustain the event. This could have significant public health consequences because these events promote recreational activity, active transportation,²⁷ and health equity.⁶

Scholars suggested Open Streets events are potential opportunities to increase physical activity and engage vulnerable populations who may not have access to recreational opportunities.^{13,18} Studies propose strategies to improve health equity through Open Streets such as increasing the length of the route,¹⁵ the duration of the event,¹⁵ or the frequency of the event.⁶ However, these strategies would require additional funding for the event, primarily for barricades and a police presence to ensure the streets are safe during the event. Unlike Latin American countries, in the United States, cities hosting Open Streets events are responsible for the expenses of police presence and liability insurance.^{4,15} These additional costs serve as a critical barrier to improving health equity through and sustainability of Open Streets events.

Implications for Future Research. Although previous studies have reported benefits among business during Open Streets events, few have used qualitative methods to understand the economic implications of an Open Streets event on adjacent businesses. Researchers must continue to explore the impact of Open Streets events economic outcomes

for businesses, the promotion of active transportation, and improvements to health and health equity. An advantage of this study was its use of qualitative survey questions to understand how Open Streets ICT impacted businesses. Future studies of Open Streets events may extend the literature by using open-ended questions to understand how Open Streets impacts businesses and, more importantly, how businesses can impact Open Streets.

For Open Streets events to grow and/or be sustained, they need buy-in from businesses along the route. Future research could explore how to engage various types of businesses better and determine which types of businesses might be willing to sponsor the event. Businesses are stakeholders and may be willing to increase funding for barriers and police presence. Additionally, research needs to explore how businesses could contribute meaningfully to the Open Streets planning process. This could involve identifying which streets to close, extending the Open Streets routes to reach vulnerable populations, proposing more activities during and throughout the event, and determining the frequency and duration of the event. This collaboration can lead to greater public health impacts such as addressing insufficient physical activity, health inequity, and safer streets.

Limitations. There were two primary limitations to this study. First, the sample size was small. Not all businesses throughout the entire two-block width were surveyed. Thus, results might not be representative of all businesses participating in the event. However, this study had a larger sample size of businesses than the CicloSDias event ($n = 26$),²⁰ albeit much smaller than Sunday Streets ($n = 317$).¹⁹ Second, the survey included subjective questions about the event's impact on businesses. We avoided asking respondents to report the specific revenue in sales or the number of visitors, as conducted in previous Open Streets evaluations, due to concerns that specifying dollar amounts might dissuade respondents from completing the survey.

CONCLUSIONS

Compared to other Sundays, Open Streets ICT 2019 increased the number of visitors and improved sales for participating businesses. These businesses reported it was beneficial for their business, and they recommended that other businesses participate in Open Streets ICT.

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