Final report for 2017 market season

Summary conclusions: It is estimated that 108,968 individuals visited the Oak Park Farmer's Market during the entire 2017 season. Approximately 5,145 visitors attended on a typical (non-rainy) summer day and 3,825 visitors on a typical (non-rainy) fall day. These numbers are similar to those from the 2016 and 2015 market season and during the single count obtained in 2010.

Comparison to past years

There appears little change in attendance across the four sampled years. Four dates were tallied during the 2017 season (three fair weather and one rainy), four dates in 2016 (all fair weather), four dates in 2015 (two rainy and two fair weather) and one date in 2010 (fair weather). (See below for raw and estimated numbers.) With more tallies now available, statistical estimation methods continue to improve (see "Methods" below for details), allowing corrected estimates to be applied to past years, including adjustments for seasonal changes. Using these corrections, 103,029 total visitors were estimated during the 2016 season, 104,271 visitors during the 2015 season, and with 4,491 visitors on the single market date in 2010. The primary factor contributing to market attendance remains weather, with rain events contributing to a loss of approximately 30% of visitors per day. The estimated increase (by approximately 5,500 visitors) in attendance in 2017 was primarily caused by the lack of rain dates during the season, with just two rain events compared to seven in both prior years.

Other observations and concerns

Effect of rain: Rain remains the most important factor controlling attendance in the open-air Oak Park Farmers' Market. Across the 13 market dates at which attendance was tallied during 2010 and 2015–2017, four were impacted by rain. Although anecdotal evidence suggests many visitors come early or postpone their market visits to avoid light rain, in general market attendance drops by approximately 30% when rain is persistent. (In other words, approx. 3,595 visitors attend on a rainy summer day compared to approx. 5,145 otherwise.)

Effect of seasonality: Evidence in prior years suggested that the last market date generally had low attendance, but it was unclear whether this decrease was a seasonal one (i.e., attendance is always lower in the fall) or caused by a continuous drop-off throughout the season. To study this effect, attendance was made on two fall market days (both fair weather) in 2017. It now seems likely that fall attendance is continuously lower throughout the fall season (Fig. 1), with an average of 5,145 visitors per fair weather summer day and 3,825 visitors per fair weather fall day, a drop-off of 26%. Thus, seasonal variation is a secondary effect behind weather (which affects attendance by 30%). The precise date of the drop-off is not clear, but Labor Day seems to be the most likely transition date, as attendance during three August market dates (Aug. 13, 15,

and 29) before Labor Day averaged 5,250 (one date using a rain-adjusted value) whereas the sole September (23rd) date had 3,458 visitors. Back-to-school may also contribute to this transition, but Aug. 29 (which had 3,597 visitors on a rainy day, which equates to 5,148 if it had been fair weather) appears to have had typical summer attendance.
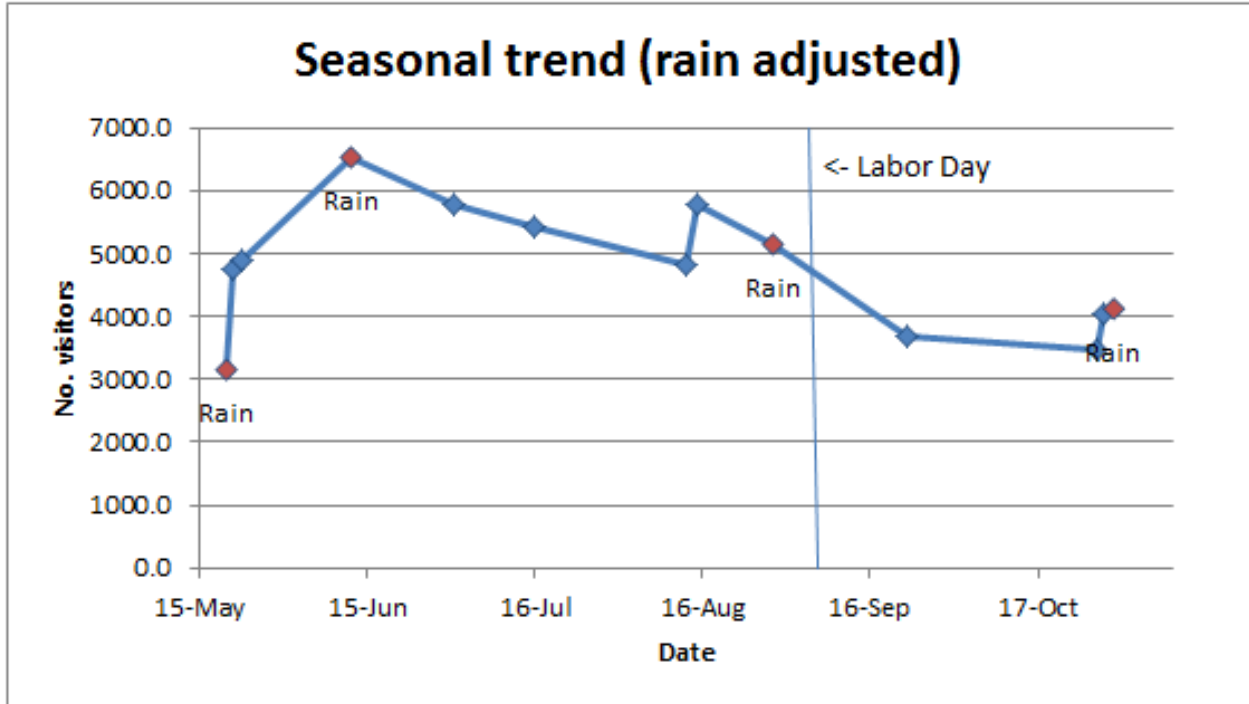

Fig. 1. Seasonal trend in market visitors, combining the thirteen 2010, 2015, 2016, and 2017 market tallies into a single trend. The four rain dates (labelled above) are adjusted upward to their fair weather-predicted values. The fall drop-off in attendance seems to occur near Labor Day rather than in weeks prior.

Hourly trends: The hourly visitor trends (Fig. 2) have remained similar in 2017 compared to the prior two years. Peak market visitation occurs 8–11 AM (especially 9–10 AM), and drops off substantially after noon.
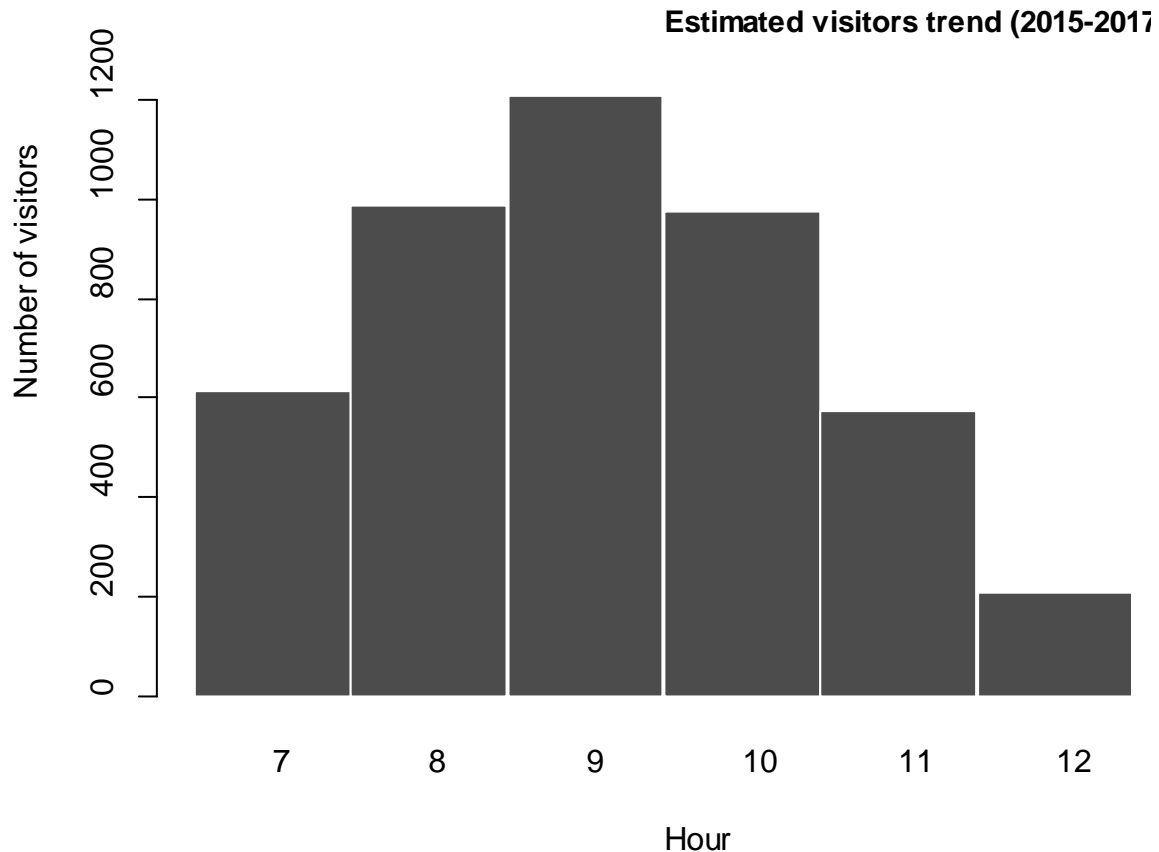

Figure 2. Number of visitors to OPFM during each hour, across twelve 2015–2017 dates.

Effect of special events: There is no obvious increase in attendance on special-event dates (Go Green Days, Corn Roast, Pie Bake-Off, Stone Soup, etc.), compared to dates lacking special events. But given the small sample sizes, it is not possible to properly evaluate the effect of these events on daily attendance. Anecdotal evidence from farmers (notably Stovers) suggested, however, that The Pie Bake-Off was an unusually good selling day for them.

Entrances, and potential effect of garage demolition: The front entrance consistently accounts for ~42% of entries, with the back-of-church Scoville alley (by parking garage) another ~37%, and the remainder elsewhere (chiefly the NE corner of market on Elmwood, between Mint Creek [Wettstein's in prior years] and Genesis vendors). These proportions are unchanged from past years.

No formal sampling has been conducted to evaluate the proportion of visitors who park in the OPRF High School parking garage. But anecdotal observation by tally-takers stationed at the Scoville alley entry by the garage suggests that approximately half the market visitors who

enter from this entry parked in the garage. This equals approximately 20% of visitors (or 1,000 individuals) per typical summer (fairweather) day who park in the garage. It is not possible to estimate how demolition of the garage might affect market attendance, but it seems reasonable that it would result in some reduction. If High School and/or Village actions result in construction work of the garage, it would be prudent for the Board to request demolition/construction occur during times least likely to affect market visitors.

The conclusions above are based on head counts on thirteen dates spanning the market seasons of 2010, 2015, 2016, and 2017, across a variety of weather conditions and event days (Table 1).

Table 1. Summary for each tally date (corrected using 2017 statistical methods)

Date	Total attendance (range)	Weather	Events
6/12/2010	4,562 (4,579–4,545)	Sunny, rain after 11 AM	
5/23/2015	4,904 (6,445–3,364)	Sunny, a few clouds	Opening day, Memorial Day Weekend, food demos, Go Green Day, children's seed potting
8/15/2015	5,786 (5,928–5,645)	Sunny, hot	Corn roast day
8/29/2015	3,597 (3,861–3,332)	Overcast, drizzle/light rain	
10/31/2015	2,880 (2,655–3,106)	Overcast, light rain	Last market day with stone soup, face painting, and storytime
5/21/2016	4,733 (5,196–4,270)	Partly cloudy (sunny, mild)	Opening day, Go Green Day, children's seed potting, YMCA
7/16/2016	5,422 (5,296–5,548)	Partly cloudy (cool, clear, sunny)	OPPL book bike, first day of corn, WBEZ on site
8/13/2016	4,836 (5,741–3,930)	Overcast and humid	Corn roast day with WBEZ on site
10/29/2016	4,036 (3,947–4,125)	Mostly cloudy (cool, clear, sunny)	Last market day with stone soup and OPPL book bike
5/20/2017	2,204 (2,354–2,054)	Overcast, cool, rain after 10	Opening day, Go Green Day, children's seed potting
7/1/2017	5,793 (6,086–5,499)	Partly cloudy (warm, sunny)	
9/23/2017	3,683 (3,904–3,461)	Clear (hot and humid)	OPPL book bike
10/28/2017	3,458 (3,875–3,041)	Mostly cloudy (chilly, light sprinkles)	Last market day with stone soup and OPPL book bike

* 2010 count only included two entries, totaling 3,600 visitors. The reported number of 4,437 is extrapolated across all entrances.

Methods:

Counts were made by Commissioner Sandra Novack-Gottshall and husband Phil Novack-Gottshall, using the attached protocol (Appendix 1) during four tally days in each of 2015, 2016 and 2017. This method counts individuals who enter market through a given entrance for a 10-minute interval each hour, rotating entryways throughout each hour.

Analyses conducted in 2015 (and confirmed in 2016) demonstrate that counts at the two main entrances (Lake St. ["front"] and church alley by garage entry ["back"]) provide reasonable estimates of total market attendance. The use of two entrances is preferable to using a single entrance to provide two independent estimates of market attendance.

To obtain estimates of "total" market attendance across all entrances, test counts were also made at (1) the alley access by the musicians/dumpster, (2) the NE alley by Genesis Growers/Mint Creek/Wettstein Meats, and (3) the small entryway between Genesis and Mint Creek/Wettstein's. The use of the donut/playground entry is unreliable for counting visitors because it is biased by visitors who pass by through it to purchase coffee/donuts and/or listen to music, and then return to market (often repeatedly). This entryway was not counted in 2016 nor 2017. The NE alley by Genesis Growers/Mint Creek/Wettstein Meats is also unreliable because it double-counts visitors who walk through this alley to enter at the musicians/dumpster alley also being tallied. Estimates of "total" market attendance were thus obtained by summing the four tallies for the front, back (both those entering from the garage and from the center alley), and the NE corner by Genesis/Mint Creek/Wettsteins (excluding those entering at the alley). This total is likely to be slightly underestimated, as it lacks visitors who enter market in other ways (such as between vendors or by the market information tent). Anecdotal observation, however, suggests that relatively few visitors enter market in these ways.
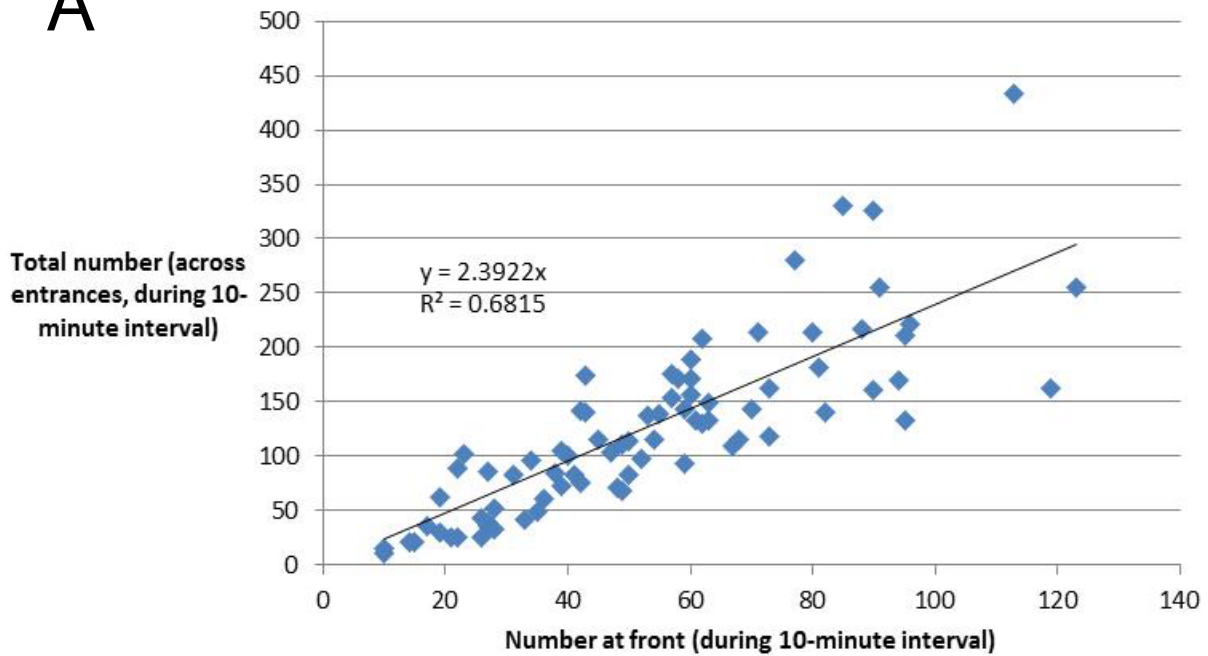
With an increasingly larger number of samples available, it was possible to use more powerful statistical methods than was used in prior years. Regression analyses were conducted using all available data, plotting observed tallies at the front (fig. 2A) and back (fig. 2B) entrances to the "total" observed numbers across all four entrances. The resulting linear regression equations were used to estimate the total number of visitors across all entrances during the sum of all 10-minute intervals for each date, then multiplying by 6 to obtain hourly estimates for the entire date. (Note that the range of values listed in Table 1 are the estimates based on the front and back entrances. Confidence intervals are not presented in this summary.)

The consistency of the estimates obtained from the front and back entrances (Table 1) provides additional evidence that the visitor counts are accurate. It also suggests that using just the front entry counts (and multiplying them by 2.5) in future seasons could be an easier proxy for total visitor counts.

Total seasonal estimates were extrapolated using the thirteen tallied dates (2010–2017) and extrapolating across the market season for four seasonal and weather estimates: 5,145 visitors for fair-weather summer, 3,602 for rainy summer , 3,825 visitors for fair-weather fall, and 2,677 for fall rain dates. Weather conditions were downloaded from the National Weather Service (using Midway Airport station).

Front entrance predictor

A

$y = 2.3922x$
$R^2 = 0.6815$

Total number (across entrances, during 10-minute interval)

Number at front (during 10-minute interval)

Back entrance predictor

B

$y = 2.6958x$
$R^2 = 0.6388$

Total number (across entrances, during 10-minute interval)

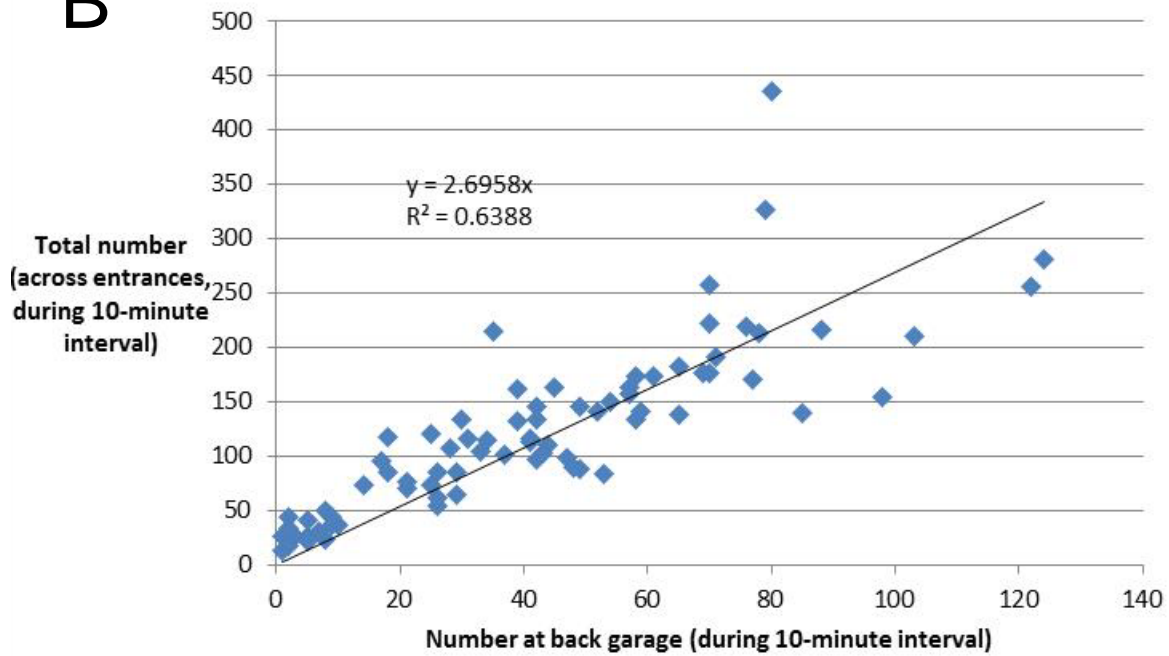Number at back garage (during 10-minute interval)

Fig. 2.

Regression analyses showing relationship between tallies at (A) front and (B) back entrances and those across all entrances. Both linear regression trend lines are statistically significant (p < 0.05).

Oak Park Farmers' Market
Protocol for Counting Visitors

Thank you for your service to the Oak Park Farmers' Market! This sheet explains the methods we use to obtain visitor counts at the market. Please do your best to follow instructions exactly. If you find that you must deviate, please make a note on your data form so we have a record.

Materials needed:
·   **Visitor count collection form**
·   **Tally counter** (clicker that advances with each push of the lever)
·   **Pen or pencil**
·   **Clipboard**
·   **Watch/phone/clock** with second-hand. One with a 10-minute timer is especially useful.

Definitions:
·   **Visitor**: Any person who enters the entryway into Market when you are counting, whether they are adults, children, infants, farmers, vendors, market staff, or security personnel.
·   **Front entry:** The Lake St. entryway to parking lot, between Iron Creek (vendor) and Stover (vendor). (Recommended counting line falls between edges of vendor tents across the entryway.)
·   **Back entry:** The N. Scoville Ave. alley entryway, across from parking garage. (Recommended counting line falls between NE corner of Pilgrim Congregational Church building and fence corner at 150 N. Scoville Ave.)

Instructions:
1. Collect counting materials at OPFM staff table and arrive at the front gate a few minutes before the half-hour. If needed, reset the tally counter so that it reads "0000".
2. Record your name, the weather (sunny, cloudy, light rain, etc.), any special market events, and any other notes on the visitor count data form.
3. At exactly 30 minutes past the hour (7:30:00 AM, 8:30:00 AM, … 12:30:00 PM), click the tally counter each time a visitor passes into Market through the entrance.
4. Continue counting all visitors for exactly 10 minutes (until 7:40:00 AM, etc.), stopping promptly. Resist the temptation to count visitors almost at the entrance.
5. Record the tally count in the appropriate box of the visitor count data form.
6. Move to the back entry.
7. Repeat steps 3–5, starting promptly at 45 minutes past the hour (7:45:00 AM, 8:45:00 AM, … 12:45:00 PM). Continue counting for exactly 10 minutes, and record your count in the appropriate box.
8. If sharing counting duties with other volunteers (or at the end of the day), return the visitor count data form to the OPFM staff desk so the next count can commence the next hour.

Notes and troubleshooting:

- Do your best to follow the directions exactly as written, but do not worry if you make a rare honest mistake.

- Prepare for weather conditions when counting. Sunscreen, hat, sunglasses, raingear, and other accessories are useful.

- When counting, you may find it useful to stand off to the side of the entryway and appear unobtrusive. Visitors often avoid "officials" with clipboards, and you do not want to affect when and where visitors enter the market.

- It is very important that the counting occur as close to 30 and 45 minutes after each hour. It is even more important to continue counting for 10 minutes (exactly 600 seconds).
  - o Starting and stopping precisely at these times helps ensure that the counts are accurate.
  - o If you realize you started early or late by only a few minutes, make sure to end at exactly 10 minutes (600 seconds) after you started. If you start more than 5–10 minutes late, it is better to skip, wait, and re-start at the next scheduled tally.

- When counting, you may find it helpful to imagine a straight line at the entryway marking the "entrance" that you use to "click" when visitors enter the market.

- If a visitor takes a "shortcut" through a vendor's sales space (or some other route to avoid the posted entryway), still count her/him. But ignore someone who enters through other entryways. In other words, only count visitors who enter through the entryway, or would have if he/she hadn't taken a shortcut to avoid it. (Shortcuts at front gate happen especially toward the end of the day, if vendors start disassembling their tents early.)

- It is important, too, to resist the temptation to anticipate entry, especially just before the official counting time begins, or just after it ends. Only click the tally counter when someone actually enters the market, and only click on the exact starting/stopping times.
  - o If someone lingers before the entryway but does not enter, do not count him/her.

- If a crowd enters at once, or there is a high rate of visitors, do your best to count each visitor. But do not worry if you make a mistake.

- If someone enters then exits immediately, or exits and immediately re-enters, or does this repeatedly, do your best to count each visitor only once for each genuine entry. If more than a few minutes pass between entries (or you cannot remember if she/he had just entered and exited), then count the visitor as a new visitor.

- Continue counting, even if there are few visitors. Counts of "less popular" hours are just as informative as counts when many visitors are attending.

- If there is a notable change in weather, note that on the form as well, including the approximate time of the change.

Oak Park Farmers' Market

Visitor Count Data Form

Weather/event notes:

Tally all visitors

Hour	Gate	Start time	End time	Count
7:00 AM	Front	7:30 AM	7:40 AM	
	Back	7:45 AM	7:55 AM	
8:00 AM	Front	8:30 AM	8:40 AM	
	Back	8:45 AM	8:55 AM	
9:00 AM	Front	9:30 AM	9:40 AM	
	Back	9:45 AM	9:55 AM	
10:00 AM	Front	10:30 AM	10:40 AM	
	Back	10:45 AM	10:55 AM	
11:00 AM	Front	11:30 AM	11:40 AM	
	Back	11:45 AM	11:55 AM	
12:00 PM	Front	12:30 PM	12:40 PM	
	Back	12:45 PM	12:55 PM	