

CITY OF WHEATLAND

CITY COUNCIL MEETING STAFF REPORT

July 25, 2023

SUBJECT:

Bishop Pumpkin Farm 2022 Traffic Study and 2023 Traffic

Management Plan

PREPARED BY:

Dane H. Schilling, City Engineer

Recommendation

Receive the *Traffic Report for the 2022 Bishop Pumpkin Farm Event*; and receive the draft report entitled *Traffic Management Plan for the 2023 Bishop Pumpkin Farm Event* prepared by the City Engineer.

Background/Discussion

Since 2015, Wheatland has been implementing traffic management plans during each season. The signs and traffic controls are placed prior to the beginning of the event, modified as needed, monitored throughout the event and removed at the end of the event.

<u>2022 Traffic Report</u> - During the 2022 event the City contracted with Quality Counts LLC, of Tigard, Oregon to acquire vehicle volume and speed data at five locations using tube counters. Over 3-million data points were collected during the 118-day (17-week) study period. The City Engineer prepared a report entitled *Traffic Report for the 2022 Bishop Pumpkin Farm Event* ("Report", Attachment 1). An oral overview of the report will be given by the City Engineer.

In general, the report concludes that: approximately 310,00 patrons and 81,395 vehicles traveled to the event; average daily traffic on Main Street was 3,022 trips; average daily traffic on Wheatland Road was 3,224 trips; vehicle speeds on Main Street were within norms; and vehicle speeds on Wheatland Road were higher than the posted limit.

An item of interest in the Report is the differences between inbound and outbound traffic counts at the Main Street gate (see figure entitled *Trip Distribution – Main St. (E St. to Gate)* on page 5 of the Report). The green bars represent inbound traffic and the blue bars represent outbound traffic. It is expected that inbound and outbound volumes would for each week would be closer to the same values as they are in weeks 1 through 9 and weeks 14 through 17. However, the data for weeks 10 through 13 shows the inbound traffic counts (green bars) are substantially lower than outbound (blue bars). This discrepancy was reviewed in detail with the traffic counting vendor who provided the data. The vendor concluded that the data counters were functioning properly at that location, however tube counting devices depend on vehicle speed to register a vehicle count. Therefore, in stop-and-go traffic the devices may not register all passing vehicles. This is

reinforced by the fact that the drop in inbound counts occurs in the busiest four weeks of the event when vehicle queuing at this location is likely to occur and then data normalizes in weeks 14 through 17 when traffic queuing stops. Also, when compared to the counts taken just a block to the east, the inbound and outbound counts are more closely tracking together (see *Distribution – Main St. (Hwy65 to E St.)* on page 4) and otherwise track with the Main Street gate counter.

It is reasonable to assume that the inbound data at the Main Street Gate should be augmented to match the outbound counts by adding approximately 27,700 cars to the inbound traffic counts over weeks 10 through 13. That addition would: modify the total count at the Main Street gate during the event from 144,898 to 172,598; increase total trips during the event from 162,790 to 190,490; and increase the average daily trips at the gate during the event from 2,865 to 3,342 vehicles. Even with the adjustment to the volume data at the Main Street gate, the general conclusions of the report remain unchanged. The City Engineer will present the results of the report to the City Council and answer any questions they may have.

<u>2023 Traffic Management Plan</u> - Each year prior to the upcoming season, City Staff meets several times to plan for the upcoming pumpkin farm event and formulates a traffic management plan. From time to time the City has conducted public workshops to solicit input of the surrounding residents and stakeholders, and then incorporates input into the current year plan. The last comments received on the traffic management plan were on July 26, 2022, when the City Engineer presented the 2022 Traffic Management Plan to the City Council. Revisions included in the prior plan included:

- Added more traffic barrels along Main Street.
- Replaced speed limit signs along Main Street with Slow for the Cone Zone signs.
- Added more notes to describe the traffic controls.
- Added or revised the text to be used for Changeable Message Signs (CMS).
- Repositioned Resident Parking Only signs.

The 2023 Traffic Management Plan (Attachment 2) is essentially the same as the 2022 plan with minor adjustments based on input gathered during the 2022 event. After review by the City Council, any input received will be incorporated into the 2023 Traffic Management Plan and a community meeting will be scheduled in early August for community review and comment.

Alternatives

This is an information item only.

Fiscal Impact

The City's costs related to the management of traffic due to the Bishop Pumpkin Farm event traffic are tracked and reimbursed through the Pumpkin Farm Joint Admissions Fund established by agreement between the Pumpkin Farm and City.

Attachments

- 1. Traffic Report for the 2022 Bishop Pumpkin Farm Event
- 2. Traffic Management Plan for the 2023 Bishop Pumpkin Farm Event



City of Wheatland

Traffic Report for the 2022 Bishop Pumpkin Farm Event

March 17, 2023

Season Dates: September 10 to November 6, 2022







111 C Street Wheatland, California 95692 TELEPHONE (530) 633-2761 FAX (530) 633-9102

Introduction/Setting

The Bishop Pumpkin Farm (BPF) is an agricultural oriented business located in the southwesterly corner of the City of Wheatland. BPF opened for business in 1973 by hosting school field trips in the fall. BPF has since expanded to include food, alcohol sales, amusement rides, shows, fireworks, camp fires and movies. BPF has steadily grown in popularity and employs seasonal workers from the surrounding community. BPF reported total attendance for the 2022 season at approximately 310,000 guests and approximately 450 employees work at BPF at any given time on a peak day.

Since 2016, Wheatland has been implementing a temporary traffic control plan during the season. Traffic controls are placed, monitored and adjusted as needed throughout the season. Traffic management plans are reevaluated annually and sometimes include input from public workshops.

The vast majority of visitors to BPF travel to the property via Highway 65 and then through City streets to reach BPF. Initially, all traffic to BPF was via a single point of access at the westerly end of Fourth Street which turns into Roddan Lane (private street) and leads to Pumpkin Lane (private street). As a result of severe congestion in the surrounding streets and in accordance with the City's traffic management plan, the main point of access in recent years has been at the westerly end of Main Street with a secondary access on Wheatland Road during October weekends.

For the 2022 season, the City developed an updated traffic management plan. The plan included input from public meetings, Bishop Pumpkin Farm representatives, Wheatland Public Works, Wheatland Police and Wheatland Fire Authority. Significant changes for the 2022 season included the following:

- Adding a row of traffic barrels at the centerline and right edges of travel lanes along Main Street between Hwy 65 and E Street. Traffic barrels replaced the use of traffic cones during the 2021 season.
- 2. The full closure of the west end of Fourth Street.
- 3. Weekend closure of E Street at First Street (Friday afternoon until Monday morning) in October.
- 4. Closure of southbound E Street at Fourth Street to prevent cut-through traffic to Main Street (Friday afternoon until Monday morning) in October.
- 5. Additional guide signs were added along eastbound Wheatland Road for visitors coming from the west on Wheatland Road and Oakley Lane.
- 6. Additional guide signs were added along westbound Wheatland Road to guide visitors to the second entrance on Wheatland Road.
- 7. A changeable message sign was added at westbound First Street west of E Street to guide visitors to Wheatland Road entrance.
- 8. A changeable message sign was added at eastbound Wheatland Road east of Oakley Lane of E Street to guide visitors to Wheatland Road entrance.
- 9. Left-turns were prohibited exiting the Wheatland Road Gate, allowing right-turns only onto eastbound Wheatland Road/First Street.
- 10. The Wheatland Road Gate (secondary) was used on all weekends in October 2022.
- 11. BPF opened an employee entrance accessible from Oakley Lane to help remove traffic from Main Street.

- 12. Collect traffic data including vehicle speed and traffic volumes by direction for this report and for future planning efforts.
- 13. BPF modified internal circulation by adding a single-lane gravel exit road west of the Main Street Gate to allow a two-lane entry road from Main Street to the parking booths. This provided additional vehicle stacking as patrons approached the ticket booths and better segregated exiting traffic from traffic entering the event.
- 14. Other minor adjustments of signs and barricades in conjunction with input from Wheatland Police and Public Works Departments.

Traffic Data Collection

In advance of the 2022 Season, the City contracted with Quality Counts LLC, of Tigard, Oregon to acquire vehicle volume and speed data in four locations on city streets and on one private road. The data collection was accomplished with the placement of tube counters across the roadways at the locations and during the time periods shown below.

	TRAFFIC COUNTER DATA TYPE BY LOCATION AND PERIOD	Pre-Season	Early Season	Peak Season	Post- Season
	V=volume S=speed	30-days before	Before October	Month of October	30-days after
Location		Aug. 10th thru Sept. 10th	Sept. 10th thru Sept. 30th	Oct. 1st thru Nov. 6th	Nov. 6th thru Dec. 6th
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1.	Main Street between Hwy 65 and E Street	VS	V S	V S	VS
2.	Main Street between E Street and BPF Main Street Gate	V S	V S	V S	V S
3.	Wheatland Road in front of Wheatland High School	V S	V S	V S	V S
4.	Wheatland Road between Wheatland Park Dr & Oakley Ln	V	V	V	V
5.	8PF access road to Wheatland Road Gate	V	V	V	V



Traffic Report 2022 Bishop Pumpkin Farm Event

Two sets of two tubes (four total) and a data collection device were installed at each location. The second set of tubes was used as a backup in the event the first set of tubes were damaged or disabled. For each vehicle trip, each vehicle's axles had to pass over two tubes producing two data points. A two-axle vehicle would have four data points associated with the vehicle trip shown in the data set. (two points for the front axle and two points for the rear axle), this is regardless of if the vehicle is a sedan or a motorcycle.

Over 3-million data points were collected during the 118-day (17-week) study period. Data was downloaded and equipment was checked in the field on a weekly basis. Additional maintenance was performed when needed. Data collection occurred around the clock except when the equipment was damaged or malfunctioning which created short gaps in the data at a given location. Count data was date and time stamped. In some cases where speed was calculated, data outliers were removed if it was determined that a data returned results that were improbable or physically impossible.

The following results and conclusions include traffic volumes and traffic speeds organized by time period and by location. Data was organized, graphed, and analyzed using spreadsheets. Traffic trends were developed for each of the study periods (Pre-Season, BPF Season and Post-Season) and Pre-and Post-Seasons were used as a basis of comparison to data in the BPF Season study period.

Traffic Volumes

Over 830,000 vehicle trips on all five streets were recorded during the 17-week study period (see Table 1). Each "trip" represents one vehicle traveling in one direction or lane. Typically, each vehicle accessing BPF would generate two trips – one entering and one exiting the farm. That same vehicle would also generate trips on Main Street, Wheatland Road or possibly both depending on their origins and destinations. Because a vehicle may be represented by data on multiple streets, trips from street segments should not be summed to estimate the total number of vehicles present (such as calculating the number of vehicles present at the BPF). Data taken at each gate (Table 2) is used to determine total vehicles visiting BPF.

Table 1 shows vehicle trips by street segment and study periods. When the pre-season trips are compared with the post-season trips a reasonable correlation can be seen in the pre- and post-season volumes for each segment. Post-season trips are slightly lower (about 5% lower) than pre-season volumes but relatively close and consistent among the three segments listed. Therefore, an average of pre-and post-season data was used as a basis of comparison for data collected during the BPF season.

TABLE 1 -	VEHICLE	TRIPS RY	STREET	SEGN	JENT
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	Pre-Season Trips (30-day period)			BPF Season Trips (57-day period)				-Season O-day perio		Total Trips During Study (117-days)		
SEGMENT	MENT EB WB Sum		Sum	EB	WB	Sum	EB	WB	Sum	EB	WB	Sum
Main StHighway 65 to E St.	12,633	6,555	19,188	89,524	82,728	172,252	10,542	4,540	15,082	112,699	93,823	206,522
Wheatland Rd.@Caliterra	32,274	28,997	61,271	93,721	71,271	164,992	31,326	27,828	59,154	157,321	128,096	285,417
Wheatland Rd.@High School	37,562	32,323	69,885	118,518	83,975	202,493	37,330	31,412	68,742	193,410	147,710	341,120
Trip Totals	82,469	67,875	150,344	301,763	237,974	539,737	79,198	63,780	142,978	463,430	369,629	833,059

TABLE 2 - BPF VEHICLE TRIPS BY GATE

	Pre	-Season Ti	rips	BPF	Season Tr	rips	Post-Season Trips			
GATE LOCATION	In	Out	Sum	In	Out	Sum	In	Out	Sum	
Main Street Gate	1,835	1,510	3,345	59,057	85,841	144,898	1,095	801	1,896	
Wheatland Road Gate	(2)	183		8,456	9,436	17,892	184			
Gate Totals	1,835	1,510	3,345	67,513	95,277	162,790	1,095	801	1,896	
Average Daily Traffic	61	50	112	1,184	1,672	2,856	37	27	63	

The following graphs show the distribution of trips each week on each roadway over the study period. The shaded area in the middle of the graphs represents the days that BPF was in operation.

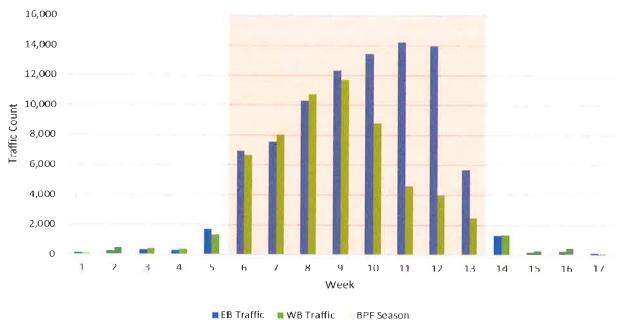
Trip Distribution - Main St. (Hwy65 to E St.) 18,000 16,000 14,000 12,000 Traffic Count 10,000 8,000 6,000 4,000 2,000 0 2 1 5 7 8 9 6 10 11 12 13 14 15 16 17 18 Week

BPF Season

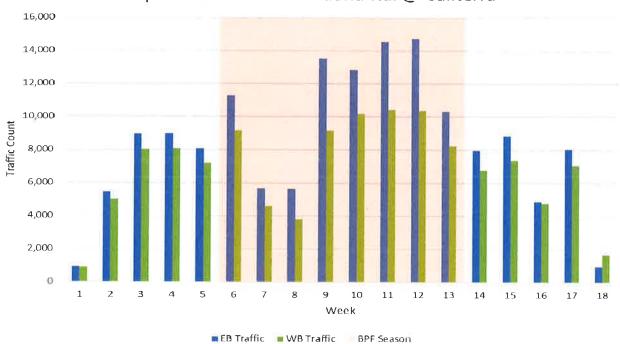
EB Traffic 📜 WB Traffic

Traffic Report 2022 Bishop Pumpkin Farm Event



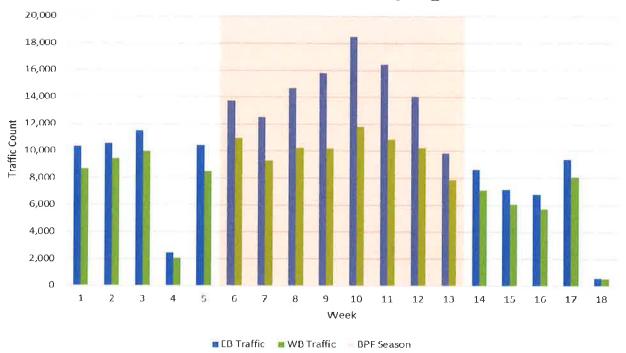


Trip Distribution - Wheatland Rd. @ Caliterra

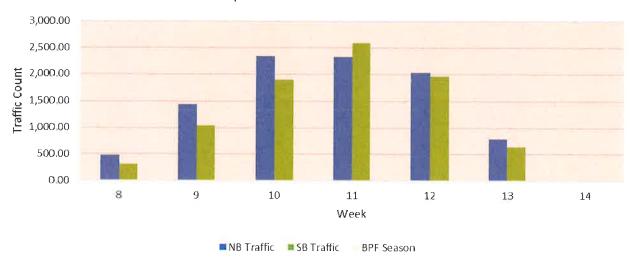


Traffic Report 2022 Bishop Pumpkin Farm Event

Trip Distribution - Wheatland Rd. @ High School



Trip Distribution - Wheatland Rd. Gate



Traffic Speed

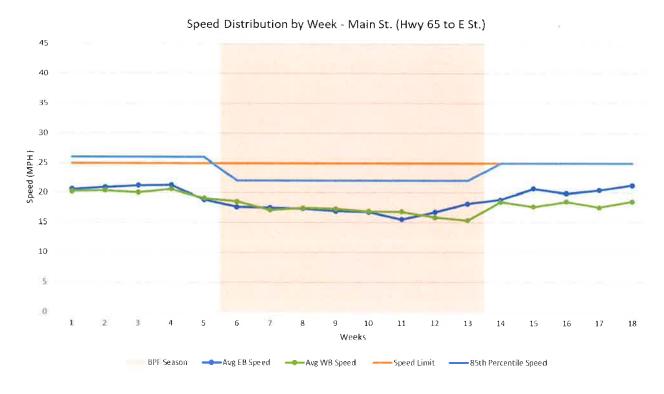
The tube counters are also capable of estimating the speed of vehicles. Table 3 shows vehicles speeds during the three study periods.

TABLE 3 - VEHICLE SPEED BY STREET SEGMENT

			Pre-S	eason		BPF Season				Post-Season			
	Posted Speed (mph)	Max Speed	Ave. Speed	85%²	Pace Speed ³	Max speed	Ave. Speed (mph)	85%²	Pace Speed ³	Max Speed	Ave. Speed	85%²	Pace Speed ³
Main StHighway 65 to E St.	25 ¹	45	22	26	17-26	54	18	22	14-23	45	21	25	17-26
Main StE St. to BPF Gate	25 ¹	44	20	22	13-22	56	16	20	11-20	38	19	23	12 - 21
Wheatland Rd.@Caliterra	35	91	37	46	33-42	95	36	45	33-42	94	36	45	33-42
Wheatland Rd.@High School	25	67	26	34	22-31	88	28	36	24-33	83	28	36	24-33
Wheatland Road Gate	n/a	37			-	37	10	13	5-14	(9)			200

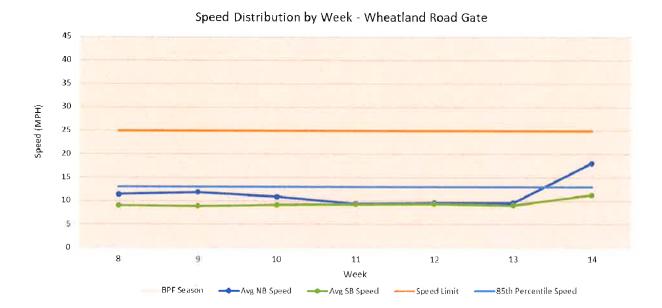
- Notes: 1) Speed limit is "prima facie" speed of 25-mph per California Vehicle Code 22352. Speed limit not posted.
 - 2) 85% Percentile is the maximum speed that 85% of drivers will not exceed and basis for determining posted limts.
 - 3) Pace Speed is 10-mph pace is the range of speed at which the majority of cars are traveling.

The following graphs show the distribution of average segment speed each week on each roadway over the study period. The shaded area in the middle of the graphs represents the days that BPF was in operation.



Traffic Report 2022 Bishop Pumpkin Farm Event

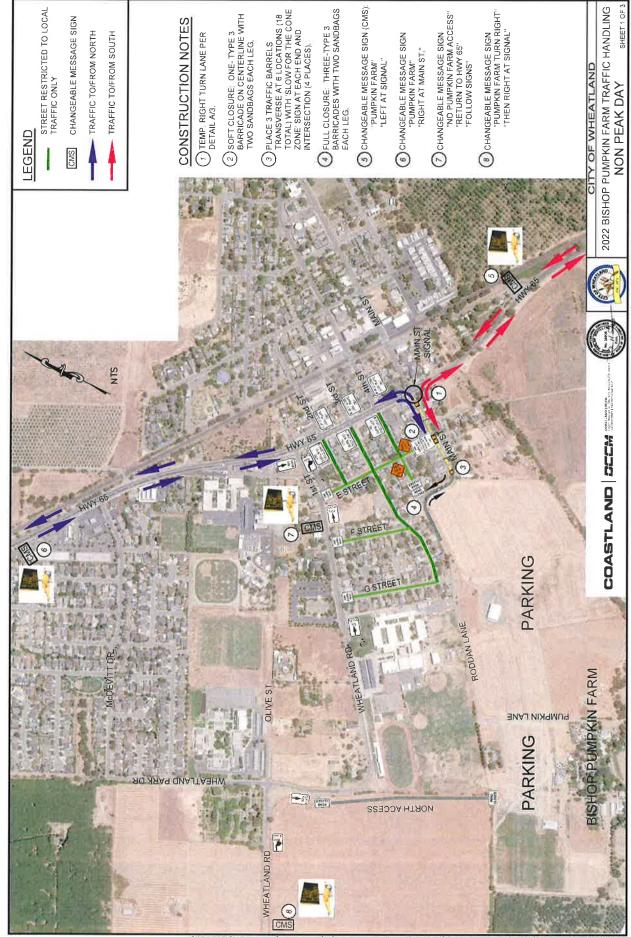


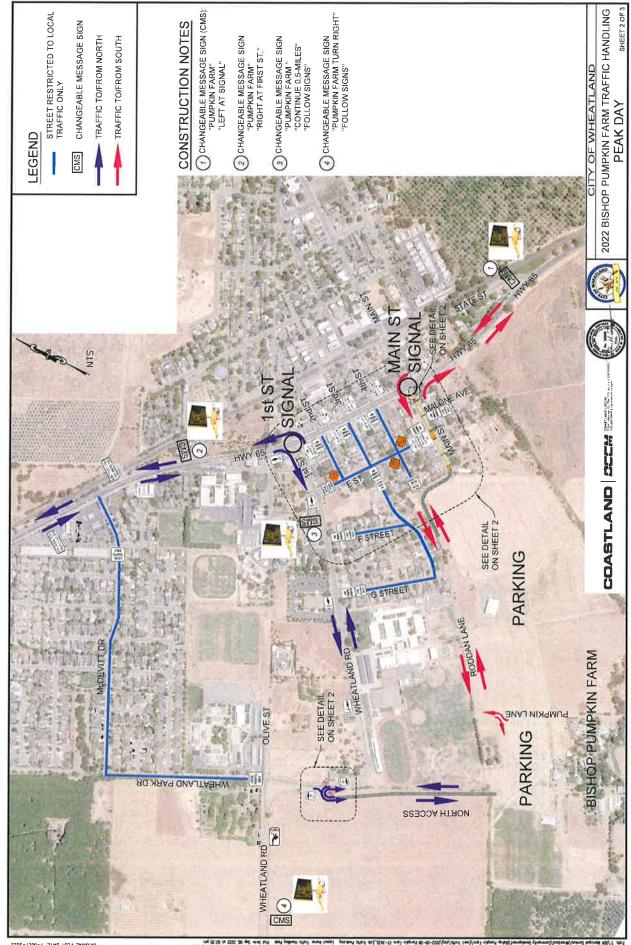


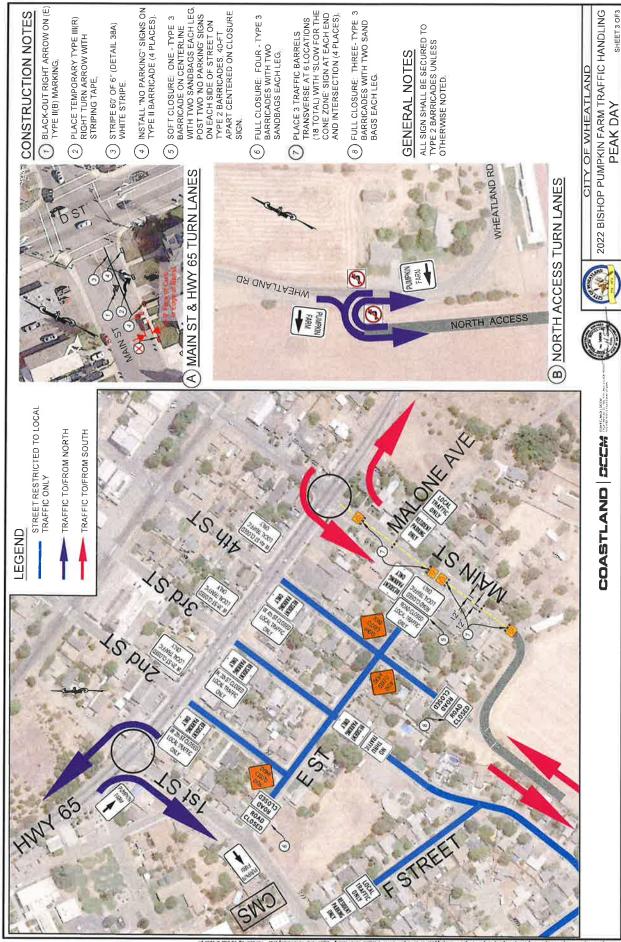
Conclusions

The traffic data collected over the study period suggest the following conclusions regarding traffic associated with the 2022 Bishop Pumpkin Farm season:

- Approximately 81,395 vehicles accessed the BPF site during the 57-day event.
- 2. Total traffic on Main Street increased by 155,117 trips which equates to an average of 9,125 trips per week or average daily traffic (ADT) of 3,022 trips during the BPF season.
- 3. Total traffic on Wheatland Road increased by 118,980 trips which equates to an average of 6,999 trips per week or ADT of 3,224 during the BPF season.
- 4. The Federal Highway Administration (FHWA) designation for Main Street and Wheatland Road is "Major Collector" which can accommodate up to 6,300 ADT. Therefore, traffic volumes on these streets did not exceed nationally established volume thresholds.
- 5. The 2006 City of Wheatland General Plan designates Main Street as an "Arterial Roadway". The ADT of approximately 3,000 ADT observed in this study is within the threshold of 12,000 ADT per the General Plan.
- 6. The estimated attendance of 310,000 patrons, equates to 3.8 occupants per vehicle (includes buses).
- 7. The establishment of an employee parking area off Oakley Lane removed approximately 30,000 employee trips from the Main Street Gate.
- 8. The 85-percentile speeds on Main Street during the BPF event period are consistently 2 to 4 miles per hour slower than pre- and post-season periods.









City of Wheatland

Traffic Management Plan for the 2023 Bishop Pumpkin Farm Event

Revised July 17, 2023

2023 Season Dates: September 9th thru November 5th

111 C Street Wheatland, California 95692

TELEPHONE (530) 633-2761 FAX (530) 633-9102

Traffic Management Plan 2023 Bishop Pumpkin Farm Event

Introduction/Setting

The Bishop Pumpkin Farm (BPF) is an agricultural oriented business located in the southwesterly corner of the City of Wheatland. BPF opened for business in 1973 by hosting school field trips in the fall. BPF has since expanded to include food and alcohol sales, amusement rides, shows, fireworks and movies. BPF has steadily grown in popularity and employs seasonal workers from the surrounding community.

In 2011, the BPF property was annexed into the city which, among other things, provided city water and sewer services to BPF and more opportunities for collaboration between BPF and the City on addressing traffic impacts. The City's first traffic management plan was implemented for the 2015 season.

BPF reported total attendance for the 2022 season of approximately 310,000 guests and the vehicle count at approximately 81,400 vehicles over 57-days spanning from the second Saturday in September to the first Sunday in November.

The vast majority of visitors to BPF travel to the property via Highway 65 and then through City streets to reach BPF. Initially, all traffic to the farm was via a single point of access at the westerly end of Fourth Street which turns into Roddan Lane (private street) and Pumpkin Lane (private street). In recent years the main point of access has been at the end of Main Street and a secondary access via Wheatland Road during peak weekends.

Traffic flows are characterized as:

- Slower in September with a more even distribution of traffic.
- Intensifying consistently leading up to the last weekend in October with marked increases on weekends.
- School bus traffic only on weekdays, typically Monday through Thursday.
- Adverse weather conditions can significantly lower attendance during inclement weather but then cause a spike in the following weekend.
- Before-hours traffic includes employees and deliveries.
- Visitors will explore the use of any available routes in attempts to reduce travel time.
- · Visitor trips are more intense/condensed in the mornings and after evening events.
- Special evening events at BPF generate surges when the special event concludes.
- Admissions/parking processes at BPF can cause queueing that spills into city streets if adequate admission booths and parking staff are not provided.

Since 2015, Wheatland has been implementing a traffic control/management plan during the season. The signs and traffic controls are placed prior to the beginning of the event, monitored throughout the event and removed at the end of the event.

City Staff meets several times before each season to discuss planning for the upcoming event. Participants include the City Manager, Wheatland Police Department (Chief and Sergeant), Wheatland Fire Authority (Chief), Public Works Director and Superintendent, and the City Engineer. After formulating a draft plan for the season City Staff consults Caltrans Traffic Operations Staff and representatives from BPF in separate meetings. Staff has met with the BPF representatives and no changes to the internal BPF traffic circulation or access to city streets are planned. The City will host a public meeting sometime in August.

Traffic Management Plan 2023 Bishop Pumpkin Farm Event

Topics addressed in the development of each year's plan include:

- Ingress/egress of emergency vehicles.
- Police presence on Wheatland's streets
- Speed limits and speed controls
- Traffic signal timing adjustments
- Road closures
- Signs and sign placement
- Traffic control devices: barricades, signs, delineators, changeable message signs
- Caltrans encroachment permit
- Second entrance
- Inbound traffic from the west on Wheatland Road from Highway 70 and short-cutting down Oakley Lane.

The City's practice of advanced planning is helpful to a continuous improvement process that can provide opportunities to adapt and optimize the traffic management plan.

2023 Approach to Traffic Management

The following description and the attached exhibits describe the City's approach to traffic management for the 2023 BPF season. For purposes of this year's plan, peak days are defined as all Saturdays and Sundays in Octobe

- 1. Follow and comply with published regulations such as the California Manual for Uniform Traffic Control Devices (CAMUTCD) and the California Vehicle Code.
- 2. Segregate to the extent possible vehicle trips generated from north and south of Wheatland, especially on peak days to reduce traffic conflicts.
- 3. Use traffic signals at Mair Street and First Street to organize, direct and meter traffic entering or auting Wheatland via Highway 65.
- 4. Direct traffic to arterial a reets to the greatest extent possible to take advantage of the wider streets and stronger pavement structure present in arterial streets.
- 5. Reduce vehicle conflicts and cut-through traffic from intersecting streets by restricting or strongly discouraging the use of non-arterial streets.
- 6. Provide a visible law enforcement presence. See details in the following section.
- 7. Discourage use of E Street from Main Street by placing road closed signs on the shoulders at E Street and Main Street (entire season).
- 8. Full closure (both directions) of E Street at First Street after 4pm on Fridays and re-open by 7am Monday (weekends the entire season).
- 9. Discourage use of E Street by placing road closed local traffic only signs along Highway 65 at Second Street, Third Street and Fourth Street.
- 10. Close the west end of Fourth Street at Roddan Lane (entire season).
- 11. Open a second/northerly entrance on Wheatland Road for peak days and divert trips from the north to the second entrance via the First Street traffic signal.

- 12. Request that Caltrans implement alternative signal timing at the Main Street and First Street traffic signals.
- 13. Use semi-portable barricades at full-street closures to allow for public safety response. (Note: Wheatland PD and Fire have confirmed that these type of barriers do not pose a significant hinderance to public safety response.)
- 14. Request that Caltrans modify signal timing at Main Street to allow more time for left turn from northbound Hwy-65 to westbound Main Street and right turns from eastbound Main Street to Hwy-65.
- 15. Request that Caltrans modify First Street signal timing as needed in coordination with modified flows from the Main Street signal. (Note: A planned Caltrans project on Hwy-65 may include installation of a new traffic signal at McDevitt Drive and traffic signal coordination of signals at Main, First and McDevitt.)
- 16. Employ the use of traffic barrels with "slow for the cone zone" signs on Main Street between E Street and the westerly end of Main Street for enhanced lane delineation and traffic calming.
- 17. Use temporary striping and restrict parking at the southwesterly corner of Main Street and Highway 65 to make a temporary dedicated right turn lane to southbound Highway 65.
- 18. Add more road signs along eastbound Wheatland Road for visitors coming from the west on Wheatland Road and Oakley Lane. (peak days)
- 19. Add more road signs along westbound Wheatland Road to guide visitors to the second entrance on Wheatland Road. (peak days)
- 20. Add a changeable message sign at Vestbound First Street west of E Street to guide visitors to Wheatland Road entrance, (peak days)
- 21. Add a changeable message sign at eastbound Wheatland Road east of Oakley Lane of E Street to guide visitors to Wheatland Road entrance. (peak days)
- 22. Restrict turns at the exploit the Wheatland Road gate to right-turns only onto eastbound Wheatland Road/First Sireet.
- 23. Monitor the effectiveness of this plan through the season and make minor adjustments as may be appropriate and as approved by the City Engineer.

Wheatland Police Department

Friday evenings Wheatland Police Department (PD) will have one officer assigned from 4pm until closing to monitor traffic in the vicinity of the event and conduct foot patrols inside the event.

Saturday and Sundays one officer will be assigned to monitor traffic in the vicinity of the event and one officer assigned foot patrol inside the event from opening until closing.

At the end of each week, PD will evaluate the traffic concerns and concerns within the event to determine if adjustments to staffing levels and patrol times are needed.

Traffic Management Plan 2023 Bishop Pumpkin Farm Event

Points of Contact

During the event, public safety concerns, comments and inquiries should be directed to the following:

All Public Safety Emergencies 911

Police Non-Emergency (dispatch) 530-633-2821
Fire Non-Emergency 530-633-0861
Public Works After 5pm and Weekends 530-633-0926
Public Works Normal Business Hrs. (M-Th) 530-633-2761

Conclusion

To the greatest reasonable extent and under the direction of the City Engineer the City will: 1) implement this traffic management plan as described above, 2) monitor conditions during the event, and 3) make minor adjustments to the plan as needed during the event to address any issues or unforeseen circumstances. Any substantial changes to the plan will require the approval of the City Engineer and written modification of this plan

This plan has been prepared under my responsible charge.



Dane H. Schilling, PE City Engineer City of Wheatland

Attachments:

2023 BISHOP PUMPKIN FARM TRAFFIC HANDLING PLAN (3 pages)

