Chapter 2

TRANSPORTATION

KEY FINDINGS

- State Route (SR) 65 currently operates at a level of service "F".
- All of the other study roadways currently operate at level of service "C" or better.
- Motorists entering SR 65 experience long delays at most of the intersections.
- Study intersections that are not along the highway operate acceptably.
- The existence of sidewalks is intermittent throughout the community.
- Designated bicycle facilities do not exist in Wheatland.
- Signals are to be installed on SR 65 at First Street and Main Street.

State Route 65

2.1 | INTRODUCTION

This chapter summarizes the current (2004) traffic conditions and potential traffic issues associated with development in the city of Wheatland. Currently, the urbanized portion of the community encompasses approximately 500 acres. As the city develops and the community increases in size, the General Plan Update will guide development of residential, commercial, and industrial areas. Figure 1-2 depicts the city limits, Study Area, and Sphere of Influence.

STUDY AREA

Current traffic conditions were evaluated based on daily traffic volumes and p.m. peak hour levels of service. The twenty-five (25) street segments were evaluated and are listed below. These streets are presented in Figure 2-1:

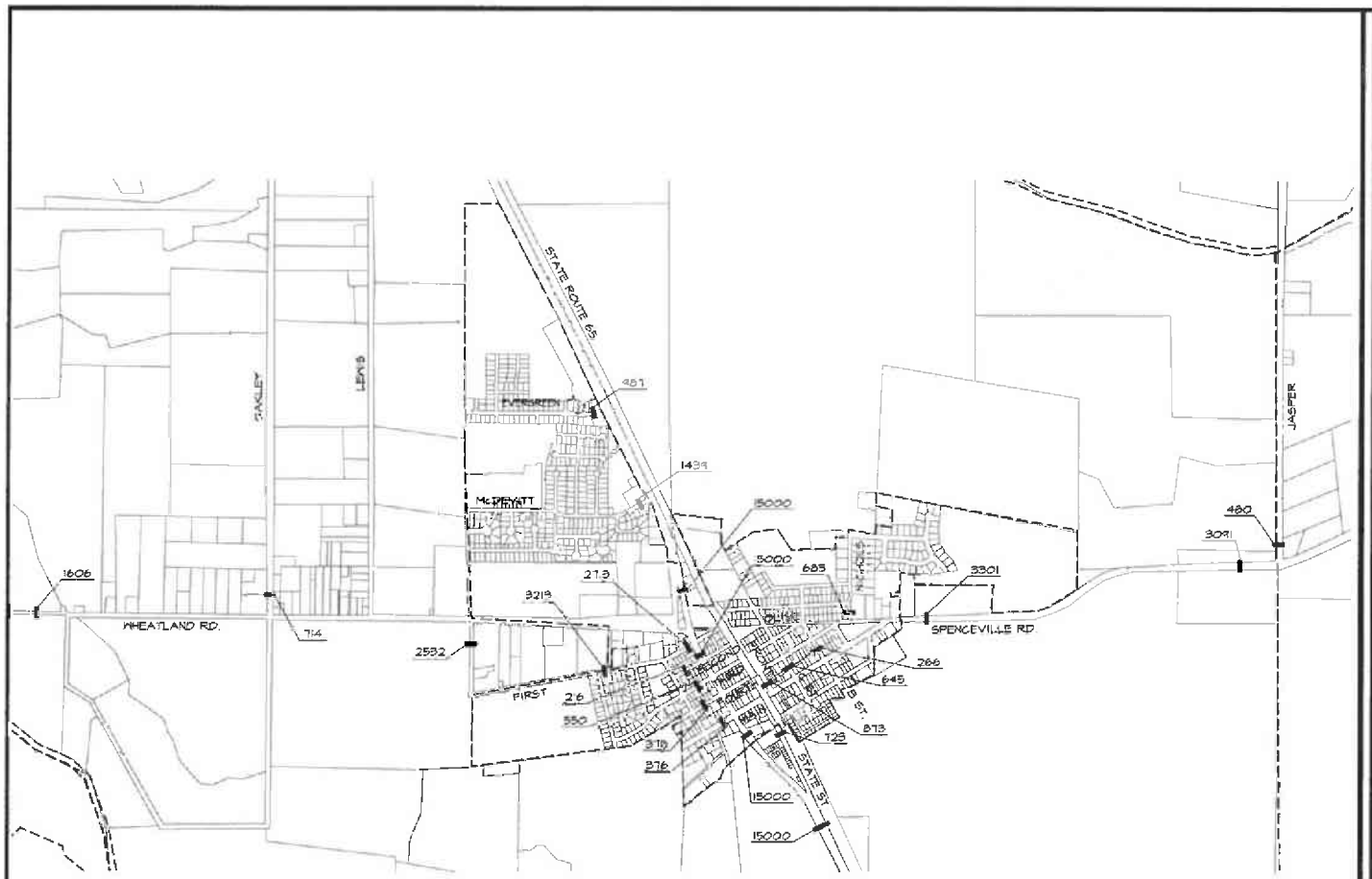
1. SR 65 South of Bear River
2. SR 65 South of State Street
3. SR 65 city limits to Main St
4. SR 65 Main St to First St
5. SR 65 North of First Street
6. First Street West of SR 65
7. First Street East of G Street
8. First Street South of Wheatland Road
9. Second Street West of SR 65
10. Third Street West of SR 65
11. Fourth Street West of SR 65
12. Main Street West of SR 65
13. McDevitt Drive West of SR 65
14. McDevitt Drive North of Wheatland Rd
15. Evergreen Drive West of SR 65
16. Wheatland Road West of Sorano Lane
17. State Street South of Sixth Street
18. Front Street North of Main Street
19. C Street North of Main Street
20. D Street North of Main Street
21. Nichols Drive North of Olive Street
22. Oakley Lane West of Wheatland Road
23. Spenceville Road East of Main Street
24. Spenceville Road West of Cyrus Dam Rd
25. Jasper Lane North of Spenceville Road

The ten (10) study intersections that were also evaluated include:

1. SR 65/Evergreen Drive
2. SR 65/McDevitt Drive
3. SR 65/First Street
4. SR 65/Second Street
5. SR 65/Third Street
6. SR 65/Fourth Street
7. SR 65/Main Street
8. Fourth Street/Front Street
9. Main Street/Front Street
10. Main Street/Olive Street

2.2 | STREET SYSTEM

The City of Wheatland Public Works Department maintains the city's street system. The street system consists of approximately 12.5 miles of roads. The city streets are primarily local roads except for Spenceville Road, Main Street, and First Street which are classified as collector or arterials in the city's 1980 General Plan. As indicated in the road descriptions, Spenceville Road and Main Street are arterials and First Street is a collector. Except for about 2.5 miles of recently constructed Wheatland Ranch, Park Place, and Ryantown subdivision streets, most of the city's road system has not had any overlay or reconstruction since at least 1960.



WHEATLAND
GENERAL PLAN

LEGEND

XX Average Daily Traffic

Figure 2-1
Existing Daily Traffic Volumes

Sources: kd ANDERSON; and Mintier & Associates, 2004

SR 65 traverses northwest-southeast through the city, for about two miles. The City provides some cleaning of this at-grade highway, but the State (Caltrans) is responsible for the primary cost of operation and maintenance of the highway. There are currently two signalization projects and related road work scheduled for SR65. The first is a "safe routes to school" signalization of First Street at SR65 which is scheduled for bid in late 2004 and construction in 2005. The second signalization project is for Main Street at SR65 tentatively scheduled for construction in 2005/7. The operation of roadways is presented in Table 2-3 and described in text.

Existing Street System

The City funds the operation and maintenance of the street system through gas tax and general fund revenue. New developments are required to provide for street facilities and/or pay an impact fee based on their demand and use of existing system facilities. New development is required to construct all internal street system improvements associated with their projects.

Existing system deficiencies include: failed road structural section (asphalt and base material); lack of and/or damaged curb, gutter, and sidewalk; and lack of adequate funding to maintain and keep up the street system. In addition to these physical needs, the City's Public Works Improvement Standards relative to street systems were last updated in 1992 and are in need of revision to make them more current with present day materials and construction standards.

2.3 | EXISTING SETTING

Traffic operating conditions as they exist today have been described based on the levels of service provided at intersections and on roadway segments.

STUDY AREA STREETS

Highways

State Route 65

SR 65 is a north-south highway traversing Placer and Yuba Counties. Beginning at Interstate 80 in Roseville, SR 65 travels through south Placer County across the Bear River into Wheatland and connects with SR 70 south of Marysville. SR 65 is a four-lane controlled access freeway from I-80 to the signalized Sunset Boulevard intersection in Rocklin. From that point northerly, the facility is a four-lane expressway with at-grade intersections. The highway narrows to a two-lane section through Lincoln and remains a two-lane roadway through Sheridan and Wheatland. In Wheatland the highway has been widened through the Main Street and Fourth Street intersections to provide left turn lanes, but turn lanes do not currently exist at the more northerly downtown intersections. North of Wheatland, SR 65 becomes a four-lane controlled access freeway near Beale Air Force Base. The Wheatland street system is in the general form of a grid with streets running parallel and perpendicular to SR 65 and the UPRR tracks.

Arterials

Main Street

Main Street is the most southerly east-west arterial linking SR 65 with downtown Wheatland. Main Street is designated as an arterial in the current Wheatland General Plan. Main Street is one of four at-grade Union Pacific Railroad (UPRR) crossings, and Main Street is the widest of the streets intersecting SR 65 with the width available to accommodate separate right turns.

Spenceville Road

Spenceville Road is a two-lane arterial linking Smartville Road and Camp Far West Road south of Beale Air Force Base into the City of Wheatland and SR 65. Approaching SR 65, Spenceville Road becomes Main Street through Wheatland.

Collectors

McDevitt Drive

Originating at SR 65, McDevitt Drive is an east-west collector that extends to the west providing access to residential and commercial development. At the city limits, McDevitt Drive turns to the south and extends to Wheatland Road.

Evergreen Drive

Evergreen Drive is an east-west collector roadway that provides access for area residents. Originating at SR 65, Evergreen Drive extends to the west before terminating at the city limits.

Nichols Road

Nichols Road is a local collector roadway that provides north-south access for area residents. Nichols Road extends between Olive Street in the south and Cyrus Dam Drive in the north.

Local

Fourth Street, Third Street, and Second Street

These roadways are local east-west streets that link downtown Wheatland with SR 65. Each street crosses the UPRR and continues into eastern Wheatland.

First Street and Wheatland Road

First Street/Wheatland Road is a collector street that links SR 65 with western Wheatland and continues westerly to Forty Mile Road, a north-south arterial that also crosses the Bear River. First Street is the primary access to Wheatland High School. However, First Street does not cross the UPRR and, therefore, does not serve eastern Wheatland.

B Street, C Street, and Front Street

These facilities are local north-south streets that parallel the east side of SR 65 in the downtown area.

State Street

State Street is a local north south street. Originating just south of Wheatland at SR 65, State Street extends to the north paralleling the west side of the Union Pacific Railroad Tracks. State Street terminates at Main Street as it is a county roadway.

Jasper Lane

Jasper Lane is a north-south roadway. Originating at Spenceville Road, Jasper Lane extends to the north before terminating at Ostrom Road.

Oakley Lane and Lewis Road

These roadways are rural Yuba County roads that generally run parallel to SR 65 in the area north of Wheatland. Oakley Lane connects western Wheatland with SR 65 north of the community via an intersection at Dairy Road.

EXISTING TRAFFIC VOLUMES

Daily traffic counts and p.m. peak hour intersection turning movements have been used in the analysis of existing traffic conditions. kdANDERSON Transportation Engineers' technicians conducted new daily and p.m. peak hour traffic volume counts during May 2004. Figure 2-2 displays current traffic volumes on Study Area roadways and at Study Area intersections.

LEVEL OF SERVICE METHODOLOGY

To assess the quality of existing traffic conditions and to provide a basis for evaluating project impacts, levels of service (LOS) were calculated at Study Area intersections and for individual roadway segments. "Level of service" is a qualitative measure of traffic operating conditions whereby a letter grade "A" through "F", corresponding to progressively worsening operating conditions, is assigned to an intersection or roadway segment. Table 2-1 presents the general characteristics associated with each LOS grade.

Figure 2-2
Existing PM Peak Hour Traffic Volumes

Sources: kd ANDERSON and Mintier & Associates, 2004

TABLE 2-1
LEVEL OF SERVICE DEFINITIONS

Level of Service	Signalized Intersection	Unsignalized Intersection	Roadway (Daily)
"A"	Uncongested operations, all queues clear in a single-signal cycle. Delay ≤ 10.0 sec	Little or no delay. Delay ≤ 10 sec/veh	Completely free flow.
"B"	Uncongested operations, all queues clear in a single cycle. Delay > 10.0 sec and ≤ 20.0 sec	Short traffic delays. Delay > 10 sec/veh and ≤ 15 sec/veh	Free flow, presence of other vehicles noticeable.
"C"	Light congestion, occasional backups on critical approaches. Delay > 20.0 sec and ≤ 35.0 sec	Average traffic delays. Delay > 15 sec/veh and ≤ 25 sec/veh	Ability to maneuver and select operating speed affected.
"D"	Significant congestion of critical approaches but intersection functional. Cars required to wait through more than one cycle during short peaks. No long queues formed. Delay > 35.0 sec and ≤ 55.0 sec	Long traffic delays. Delay > 25 sec/veh and ≤ 35 sec/veh	Unstable flow, speeds and ability to maneuver restricted.
"E"	Severe congestion with some long standing queues on critical approaches. Blockage of intersection may occur if traffic signal does not provide for protected turning movements. Traffic queue may block nearby intersection(s) upstream of critical approach(es). Delay > 55.0 sec and ≤ 80.0 sec	Very long traffic delays, failure, extreme congestion. Delay > 35 sec/veh and ≤ 50 sec/veh	At or near capacity, flow quite unstable.
"F"	Total breakdown, stop-and-go operation. Delay > 80.0 sec	Intersection blocked by external causes. Delay > 50 sec/veh	Forced flow, breakdown.

Source: Highway Capacity Manual, 2000.

Urban Roadway Segments

In urban areas, level of service thresholds have been used which suggest the general volume of daily traffic that would normally produce the respective peak hour levels of service, assuming the installation of typical traffic control devices (i.e., traffic signals, stop signs). Table 2-2 presents the daily traffic volume thresholds associated with each LOS grade for urban roadway segments.

A more subjective view of traffic conditions is also applicable based on consideration of issues such as pedestrian safety, impacts to residential access, noise, etc. Many communities have identified planning level traffic volumes that are applicable to streets with residential frontage and/or schools. These thresholds are below the actual capacity of the road itself and are typically in the range of 2,500 to 4,000 ADT. The City considers 4,000 ADT as the threshold for residential streets and schools that front the street, such as First Street near Wheatland's schools. Currently, First Street carries a maximum daily volume of 3,213 ADT just east of G Street.

TABLE 2-2
DAILY TRAFFIC VOLUME LEVEL OF SERVICE THRESHOLDS

Facility Type	**LOS "C"**		**LOS "D"**		**LOS "E"**	
Urban Street	**v/c 0.71 ≤ 0.80**		**v/c 0.81 ≤ 0.90**		**v/c 0.91 ≤ 1.00**	
2 lanes	10,700	12,000	12,000	13,500	13,500	15,000
3 lanes	14,200	15,950	15,950	17,950	17,750	19,950
4 lanes	21,300	24,000	24,000	27,000	27,000	30,000
5 lanes	28,300	31,900	31,900	35,900	35,900	39,900
Rural Roads						
2 lane - Level						
Typical Existing	3,675	6,000	6,000	10,500	10,500	17,500

As the operation of major intersections primarily govern the quality of traffic flow conditions in urban areas, an intersection level of service analysis has been used for this study to determine the significance of resulting traffic conditions.

Procedures used for calculating levels of service are presented in the *Highway Capacity Manual*. In addition to traffic volumes at signalized intersections, these procedures make use of geometric information and traffic signal timing data.

At unsignalized intersections, vehicle acceleration and gap acceptance are the basis for estimates of delay are used for level of service analysis. The procedures used for unsignalized intersections are also presented in the *Highway Capacity Manual*. At unsignalized intersections that are controlled by side street stop signs, levels of service are calculated for the individual turning movements that must yield right of way. While a "weighted average" level of service is calculated by the software for all traffic through the intersection, the "weighed average" presented in this report is for those movements that must yield the right-of-way.

An unsignalized level of service analysis is usually supplemented by consideration of traffic signal warrants in order to confirm the significance of calculated delays. While the unsignalized level of service may indicate long delays (i.e., LOS "E"), traffic conditions are generally not assumed to be unacceptable unless signal warrants are satisfied. Meeting signal warrants signifies that intersection improvements may be justified but does not necessarily indicate that a signal is the only way to mitigate poor conditions. It is often possible to improve operations with additional lanes or improved geometrics to reduce delays. The signal warrant criteria employed for this study is as presented in the Caltrans *Traffic Manual.* When determining whether signalization is warranted, Caltrans does not include the right turning volume on the side street approach. In recent EIRs, the City of Wheatland has employed LOS "C" as the minimum standard for acceptable traffic operations at signalized intersections.

EXISTING LEVELS OF SERVICE

Table 2-3 presents the existing levels of service for the study roadways. Table 2-4 summarizes the results of existing level of service calculations at each of the study intersections.

As shown in Table 2-3, SR 65 is currently operating at LOS "F". As LOS "C" is the City of Wheatland standard, operations on SR 65 are currently below standard. Widening SR 65 to provide four (4) travel lanes would be needed to improve operations to LOS "A". However, no plans exist to widen SR 65 to four lanes. Alternatively, construction of the Wheatland Bypass would also decrease the daily traffic volumes on SR 65. However, the Wheatland Bypass is not funded or included in the SACOG Regional Transportation Plan and is not anticipated to be completed for at least 15 years.

TABLE 2-3
EXISTING DAILY TRAFFIC VOLUMES AND LEVELS OF SERVICE

Street	Location	LOS "C" Threshold*	Current Daily volume	*LOS*
SR 65	South of Bear River	12,000	15,000**	F
SR 65	South of State Street	12,000	15,000**	F
SR 65	City limits to Main Street	12,000	15,000**	F
SR 65	Main St to First Street	12,000	15,000**	F
SR 65	North of First Street	12,000	15,000**	F
First Street	West of SR 65	12,000	2,713	A
First Street	East of G Street	12,000	3,213	A
First Street	South of Wheatland Road	12,000	2,523	A
Second Street	West of SR 65	12,000	216	A
Third Street	West of SR 65	12,000	550	A
Fourth Street	West of SR 65	12,000	378	A
Main Street	West of SR 65	12,000	376	A
McDevitt Drive	West of SR 65	12,000	1,439	A
McDevitt Drive	North of Wheatland Road	12,000	2,532	A
Evergreen Drive	West of SR 65	12,000	987	A
Wheatland Road	West of Sorano Lane	6,000	1,606	A
State Street	South of Sixth Street	12,000	723	A
Front Street	North of Main Street	12,000	873	A
C Street	North of Main Street	12,000	645	A
D Street	North of Main Street	12,000	266	A
Nichols Drive	North of Olive Street	12,000	685	A
Oakley Lane	North of Wheatland Road	12,000	714	A
Spenceville Road	East of Main Street	12,000	3,301	A
Spenceville Road	West of Cyrus Dam Road	6,000	3,091	B
Jasper Lane	North of Spenceville Road	6,000	480	A

LOS: Level of Service
* Source: Yuba County General Plan
** Caltrans 2002 Counts

As shown in Table 2-4, only the SR 65 intersections with Second Street, Third Street, and Fourth Street operate at LOS "C" during the p.m. peak hours. Most motorists waiting to turn onto SR 65 during peak hours often experience relatively long delays. As shown in Table 2-3, the weighted average delay for all movements yielding the right of way along the SR 65 corridor range from LOS "C" to LOS "F".

TABLE 2-1
EXISTING INTERSECTION LEVELS OF SERVICE

Intersection	Control	Average Delay	LOS	Signal Warranted?
1. SR 65 /Evergreen	EB Stop			No
(Overall)		(58.9 sec)	(F)	
NB left		10.0 sec		
EB approach		84.1 sec		
2. SR 65 / McDevitt	EB Stop			No
(Overall)		(26.3 sec)	(D)	
NB left		10.4 sec		
EB approach		40.5 sec		
3. SR 65 / First Street	EB-WB Stop			No
(Overall)		(28.3 sec)	(D)	
NB left		9.7 sec		
SB left		10.6 sec		
EB approach		38.1 sec		
WB approach		26.3 sec		
4. SR 65 / Second Street	EB-WB Stop			No
(Overall)		(21.3 sec)	(C)	
NB left		9.5 sec		
SB left		11.0 sec		
EB approach		32.7 sec		
WB approach		30.1 sec		
5. SR 65 / Third Street	EB-WB Stop			No
(Overall)		(21.6 sec)	(C)	
NB left		9.5 sec		
SB left		10.5 sec		
EB approach		31.9 sec		
WB approach		24.4 sec		
6. SR 65 / Fourth Street	EB-WB Stop			No
(Overall)		(22.1 sec)	(C)	
NB left		9.5 sec		
SB left		11.1 sec		
EB approach		30.7 sec		
WB approach		34.3 sec		
7. SR 65 / Main Street	EB-WB Stop			No
(Overall)		(134.2 sec)	(F)	
NB left		9.0 sec		
SB left		11.7 sec		
EB approach		61.8 sec		
WB approach		128.9 sec		
8. Fourth Street / Front Street	NB-SB Stop			
(Overall)		(9.1 sec)	(A)	No
EB left		7.4 sec		
WB left		7.4 sec		
NB approach		9.8 sec		
SB approach		10.6 sec		
9. Main Street / Front Street	NB-SB Stop			No
(Overall)		(10.8 sec)	(B)	
EB left		7.6 sec		
WB left		7.7 sec		
NB approach		12.3 sec		
SB approach		11.8 sec		
10. Main Street / Olive Street	EB Stop			No
(Overall)		(10.7 sec)	(B)	
WB left		11.6 sec		
NB left		0 sec		
EB approach		9.7 sec		

The extent to which current traffic conditions warrant installation of traffic signals has been considered. This issue was evaluated in depth as part of another recent report.[1] Currently, no location carries traffic volumes satisfying Caltrans warrants based on observations. Therefore, overall operations are considered generally acceptable, as warrants for signalization are not met.

While the City of Wheatland is currently pursuing signalization of key intersections on SR 65, analysis of current traffic volumes suggests that traffic signals are not yet warranted on a regular basis. However, the number of pedestrians crossing at the SR 65/First Street intersection is approaching the 100 pedestrian per hour minimum established by Warrants 3-4 and a traffic signal may be justified based on this criteria.

Currently, study intersections in the downtown area that are not along the SR 65 corridor operate acceptably at LOS " B" or better during the p.m. peak hour. In addition, these intersections do not meet peak hour warrants for signalization and, therefore, no improvements are currently needed.

ALTERNATIVE TRANSPORTATION MODES

Several non-automotive transportation modes exist in the city, including pedestrian and bicycle facilities, public transit, and railroad.

Pedestrian Facilities

As several schools are located in the area of the SR 65/First Street intersection, many school age pedestrians walk to school in the morning and afternoon. An adult crossing guard regularly stops traffic on SR 65 in order to allow students to pass. Pedestrian counts made by the crossing guard and reported in a previous traffic study indicated that 60 to 80 pedestrians typically cross in the morning and the afternoon, with another 40 to 60 students crossing at other uncontrolled locations[2].

Sidewalks exist intermittently throughout the community. In downtown Wheatland, sidewalks, concrete or asphalt, exist along the west side of SR 65 but not on the east side, although some asphalt sidewalks lack a raised curb. Sidewalks exist along many of the streets in the residential areas west of SR 65. Sidewalks also exist along the south side of First Street and Wheatland Road as far as the western boundary of Wheatland High School.

The "Safe Route to Schools – 2nd Cycle" program aimed at improving pedestrian safety includes signalization of the SR 65/First Street intersection, and construction of curbs, gutters and sidewalks on various city streets.

Bicycle Facilities

Currently, designated bicycle facilities do not exist within Wheatland.

---

[1] *Ibid.*

[2] *Traffic Analysis Report for Improvements to SR 65 from Main Street to Olive Street*, kdANDERSON Transportation Engineers, January 2001.

Public Transit/Rail Operations

Yuba-Sutter Transit offers round trip service to Wheatland. The Wheatland Route provides round-trip service to Wheatland once each Tuesday from Linda and Marysville. The bus will pick up and drop off at any address in Wheatland. Currently, the basic one-way fare is $2.00. Reduced senior and youth fares are also available.

Amtrak and Greyhound service is not available in Wheatland. The nearest Amtrak and Greyhound service is available in Marysville.

The Union Pacific Railroad (UPRR) tracks bisect Wheatland and generally parallel the east side of SR 65. A total of four crossings of the Union Pacific Railroad currently exist within Wheatland.

Airports

The city of Wheatland does not have an airport. The nearest certified airport for carrier operations to Wheatland is provided at the Sacramento International Airport (26 miles), Beal Air Force Base in Marysville (about 9 miles), and by Chico Muni (about 61 miles). Other public-use airports near Wheatland are the Lincoln Regional/Karl Harder Field (about 10 miles), Yuba County Airport (about 11 miles), and Sutter County (about 15 miles).

2.4 | OPPORTUNITIES AND CONSTRAINTS

Based on current traffic volumes and movements, it is possible to identify the circulation issues that will guide development of this area. Key information in the 1986 Transportation and Circulation Element, and Traffic Impact Analysis Reports for Heritage Oaks Estates and Jones Ranch has been addressed.

Land Use

Build out of the Wheatland General Plan will likely consist of a considerable amount of growth. As such, the Wheatland City Council has determined that the City's General Plan should be updated in order to facilitate future growth over the next 20 years. While the exact land use for Wheatland's General Plan remains to be identified, many new developments have already been proposed since 2001. These development proposals consist of Wheatland Ranch (188 single family homes), Ryan Town II (49 single family homes), Wheatland Park Place (210 single family homes), the new Junior High School (opening in the Fall 2004), Nichols Ranch (a new proposal for development), Heritage Oaks[3] (a 234-acre mixed-use development), and Jones Ranch[4] (a 190-acre project). In addition to these specific development proposals, other significant development is anticipated over the next 20 years.

---

[3] *Traffic Impact Analysis for the Heritage Oak Estates, kdANDERSON Transportation Engineers, September 2001.*

[4] *Traffic Impact Analysis for the Wheatland 189 Subdivision GPA DEIR, kdANDERSON Transportation Engineers October 2001.*

In order to guide development of future development, the following text outlines many of the issues that will need to be addressed as development occurs.

State Route 65

Currently (2004) this facility already operates at level of service "F" on a daily basis. Additional area development will result in increased traffic volumes. While widening SR 65 to provide four (4) travel lanes is currently needed to improve operations to LOS "A", no plans currently exist to widen SR 65 to four lanes. Alternatively, construction of a bypass around downtown Wheatland would also decrease the daily traffic volumes on SR 65.

Regional State Route 65 Bypass

Previous studies have projected that by the year 2010, SR 65 would carry daily traffic volumes ranging from 26,200 to 29,000 through the downtown area. As traffic volumes in the downtown area are anticipated to increase past the theoretical roadway capacity, installation of a bypass around the community will be needed. While traffic volumes indicate the need for the bypass by 2010, the Wheatland Bypass is not anticipated to be completed for at least 15 years.

Five possible alignments of the Wheatland Bypass were identified in the 2000 Project Study Report. These five bypass alternatives are illustrated in the Appendix to this section. As shown, the feasibility of Alternatives B, C, and D is significantly reduced with approval of Jones Ranch and the Heritage Oaks Estates. Presently, selection of a bypass alternative is not proceeding, as no funding for the EIR is available.

By 2020, the Wheatland Bypass may be constructed. Even with a future bypass, daily traffic volumes through the downtown area will likely be in the range of 15,000 to 20,000 ADT. Previous studies have indicated that selection of the eastern Bypass would result in higher traffic volumes [LOS "F"] on the north end of "old" SR 65 and lower volumes on the south end of the street than selection of the western Bypass. In addition, Main Street would carry a greater traffic volume east of "old" SR 65 if an eastern Bypass is implemented, but fewer vehicles would use this road to the west. An eastern Bypass would reduce the volume of traffic on First Street along Wheatland schools.

Local State Route 65 Bypass

Until the Wheatland Bypass is constructed, a local bypass around downtown Wheatland would help to alleviate traffic on SR 65 between Main Street and First Street. One local bypass option that has been explored utilizes Oakley Road being extended to connect with SR 65 in the vicinity of Heritage Oaks Estates. While this local bypass does result in lowering traffic through the downtown area, a significant reduction in traffic is not anticipated due to the length of this circuitous route.

Additional Bridge Crossing of the Bear River

Currently, SR 65 provides the only access into Wheatland over the Bear River. As such, all traffic is routed through Wheatland on SR 65. Without another crossing of the Bear River, traffic volumes on SR 65 through Wheatland will continue to rise and will exceed the capacity of the two-lane highway.

Intersections along State Route 65

Currently, motorists experience long delays when turning on SR 65 during the p.m. peak hour. As traffic volumes continue to increase along this corridor, motorists will find it increasingly more difficult to access SR 65. The City of Wheatland staff is currently working with Caltrans to signalize the SR 65 intersections with First Street and Main Street. When completed, these signals will aid motorists in accessing SR 65.

Completion of the Local Circulation

As Wheatland develops, additional local roadways will be required in order to connect new development to the existing circulation system. Several local roadways that could assist in the completion of the overall circulation system and provide connectivity within the community have been identified. Improvements that were previously identified in the 1986 Wheatland General Plan Transportation and Circulation Element are noted. These facilities are listed below:

- The extension of Main Street westerly to Jones Ranch (Wheatland 1980) – 1986 Wheatland General Plan.
- Construction of two new signalized SR 65 intersections adjacent to Heritage Oaks.
- Westward extension of these two new SR 65 connections to form a loop road that would intersect with McDevitt Drive and Oakley Lane.
- If an overcrossing over the UPRR is constructed adjacent to Heritage Oaks, construction of a local loop roadway at the SR 65 connection to meet Caltrans spacing requirements.
- In northeast Wheatland, a loop road connecting McDevitt Drive to Spenceville Road – 1986 Wheatland General Plan.
- Construction of north - south connections linking this northeast Wheatland loop road to Olive Street.

Railroad Crossings

As Wheatland develops, additional UPRR crossings would provide connectivity between existing and future development areas on both sides of SR 65. However, the UPRR will not allow another at-grade railroad crossing in Wheatland. Therefore, any new crossings of the

UPRR will need to be constructed as either an overcrossing or an undercrossing, or the existing at-grade crossing would be relocated.

Three possible locations for new crossings have been considered. These locations include a northern crossing that would align with McDevitt, a central crossing that would be located within the Heritage Oaks project, and a southern connection that would be located at the southern boundary of the Heritage Oaks project. In the vicinity of the central or southern overcrossing/ undercrossing locations, SR 65 and the UPRR tracks have a significant grade elevation.

It is anticipated that the central crossing will be used more heavily that the southern-most crossing due to its proximity to the downtown. Construction of an overcrossing/undercrossing is also anticipated to result in a reduction in traffic through the Main Street/Old SR 65 intersection.

2.5 | GLOSSARY

Critical Gap

The minimum time interval between vehicles in a major traffic stream that permits side-street vehicle at STOP-controlled approach to enter the intersection under prevailing traffic and roadway conditions, in seconds.

Gap Acceptance

See "critical gap" definition.

Start-up Lost Time

Additional time consumed by the first few vehicles in a queue at a signalized intersection above and beyond the saturation headway because of the need to reach to the initiation of the green phase and to accelerate to ambient speed, in seconds.

Vehicle Acceleration

Refers to the acceleration of a vehicle from a complete stop. See "start-up lost time" definition.

2.6 | SOURCES

California Department of Transportation. *Traffic Manual*. 2000.

kdANDERSON Transportation Engineers. *Traffic Analysis Report for Improvements to SR 65 from Main Street to Olive Street*. January 2001.

kdANDERSON Transportation Engineers. *Traffic Impact Analysis for the Heritage Oak Estates*. September 2001.

kdANDERSON Transportation Engineers. *Traffic Impact Analysis for the Wheatland 189 Subdivision GPA DEIR*. October 2001.

Transportation Research Board. *Highway Capacity Manual*. 2000.

Yuba, County of. *Yuba County Revised Draft General Plan*. Adopted January 1996.