
4.10 TRANSPORTATION AND CIRCULATION

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Introduction

This section analyzes the potential transportation and circulation impacts resulting from the implementation of the Dixon Downs Horse Racetrack and Entertainment Center Project (Proposed Project). Impacts to roadway, transit, rail, bicycle and pedestrian systems are analyzed during the weekday p.m. peak hour under existing, Year 2015, and Year 2025 conditions. Impacts related to parking, site circulation, and special events are also addressed. Because Phase 1 of the project (Dixon Downs racetrack, or a Tier 1 event, which includes attendance up to 6,800 people) would generate substantially more trips during a Sunday live racing event than on a typical weekday, project impacts are also analyzed under Sunday p.m. peak hour conditions. The potential impacts of Tier 2 events (i.e., events with attendance levels of 6,800 to 15,000 people) were analyzed for Saturday and Sunday afternoon conditions. The potential effects of a Tier 3 event (attendance in excess of 15,000 people) are addressed qualitatively given their infrequent nature. Finally, because the Proposed Project has the potential to cause impacts that are regional in scale, a regionally significant project analysis was prepared in accordance with Section 21092.4 of the Public Resource Code. The Technical Appendix to this section is available as a separately bound document.

Several agencies and stakeholders provided comments on the NOP regarding the transportation impact analysis (see Appendices A and B). The comments generally related to the scope and analysis methodologies to be used in the study, analysis of alternative travel modes, identification of mitigation measures, and evaluation of project access. To the extent relevant and feasible, these comments and suggestions have been incorporated into this analysis.

In late 2003 and 2004, several meetings and numerous correspondences occurred between Fehr & Peers, EIP Associates, City of Dixon staff, the project applicant (to gain additional insight into anticipated racing operations), and various responsible agencies. The purpose of these meetings and discussions was to identify the appropriate scope of the transportation impact analysis given the project's characteristics and comments received on the NOP. The limits of the study area are described in the "Environmental Setting" below. The "Impacts and Mitigation Measures" subsection describes the scenarios that were selected for analysis.

Environmental Setting

This section describes and analyzes the existing transportation system in the vicinity of the project site including the roadway, transit, rail, pedestrian, and bicycle systems.

Roadway System

Figure 4.10-1 illustrates the existing roadway system in the project vicinity. Key roadways are described below.

Interstate 80 (I-80) – is a six to eight lane interstate freeway that extends in a generally east-west direction through Solano and Yolo Counties. Within the study area, it has interchanges at Kidwell Road, Pedrick Road, North First Street (State Route 113)/Currey Road, Pitt School Road, West A Street, and Midway Road. It is six lanes from west of Midway Road to east of Pedrick Road. It widens to eight lanes beginning approximately 0.5 miles west of the Kidwell Road interchange. I-80 has a posted speed limit of 65 miles per hour (mph) within the study area.

North First Street/State Route (SR) 113 – begins at I-80 and extends south into downtown Dixon and beyond. For study purposes, this roadway is referred to as “North First Street” from I-80 to West A Street, “South First Street” from West A Street to the south City limits, and “SR 113” beyond the south City limits to be consistent with the posted street names. North First Street consists of two lanes in each direction from I-80 south to Adams Street where it narrows to one lane in each direction through downtown. Traffic signals were recently installed at Dorset Drive, Vaughn Road/Lincoln Street, Regency Parkway/Industrial Way, Stratford Avenue, and A Street. North First Street has posted speed limits that range from 25 to 45 mph. SR 113 is a two-lane conventional highway with a posted speed limit of 55 mph. Although not designed to current standards, the I-80/North First Street/Currey Road interchange allows for generally “free-flow” movements between I-80 and North First Street.

Pedrick Road – is a two-lane rural minor arterial street that begins in Yolo County north of I-80 and extends south along the project site’s eastern boundary to East A Street and beyond. Pedrick Road provides access to various agricultural operations and is used by farm equipment. It has a posted speed limit of 55 mph in the vicinity of the project site. The I-80/Pedrick Road interchange has a two-lane overcrossing with loop on-ramps and diagonal off-ramps connecting to I-80.

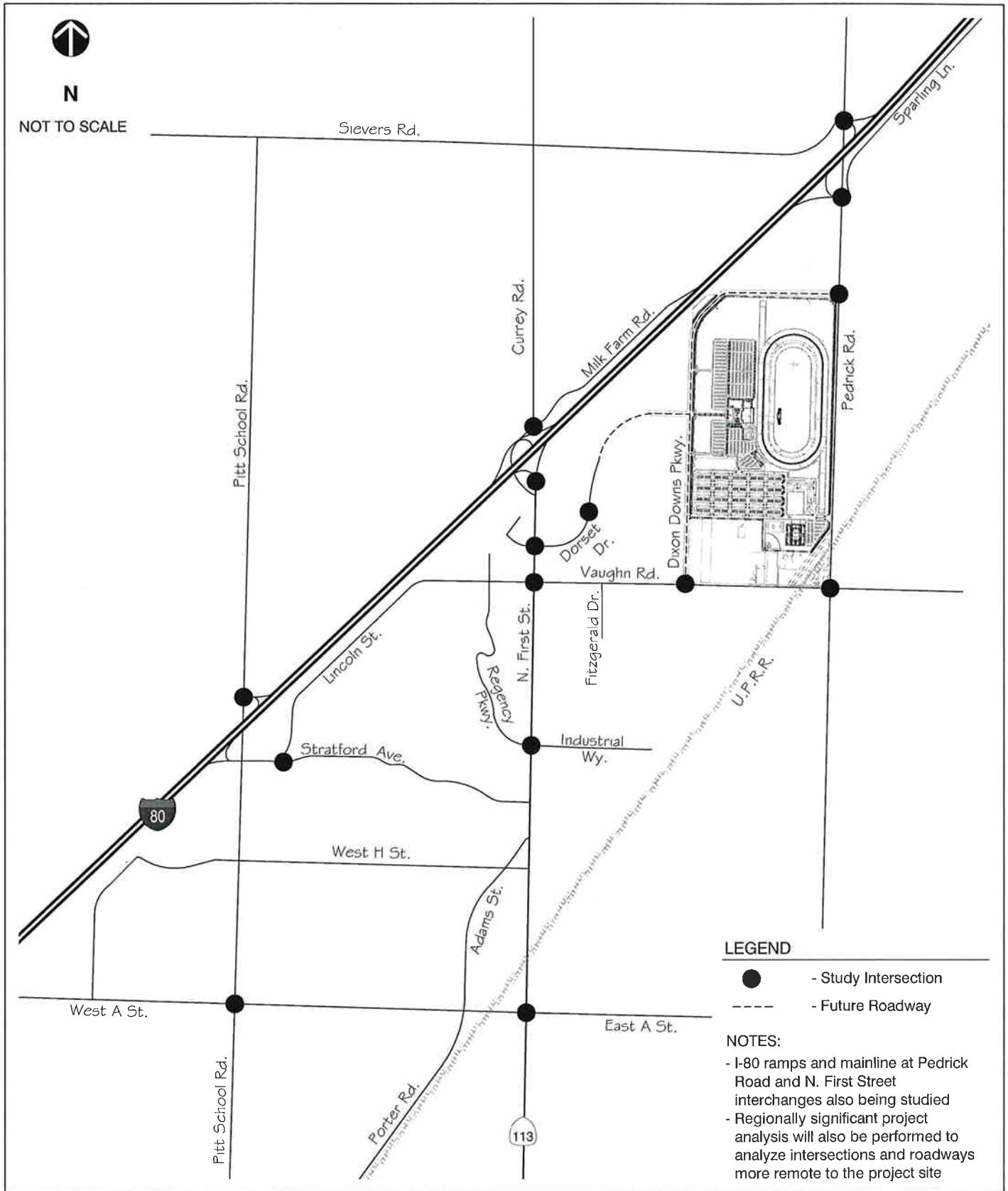
Vaughn Road – begins at North First Street and extends east to Pedrick Road and beyond. West of North First Street, Vaughn Road becomes North Lincoln Street, which has four lanes that narrow to two lanes at Regency Parkway. East of North First Street, Vaughn Road has one lane in each direction. It has a posted speed limit of 45 mph east of North First Street. Adjacent land uses along Vaughn Road between North First Street and Pedrick Road are primarily industrial and generate significant levels of truck traffic (as is quantified later in this section).

Dorset Drive – is an arterial street that begins west of North First Street and extends in a northeast direction into the Northeast Quadrant Specific Plan (NQSP) area. West of North First street, it is a two-lane street that provides access to Cattlemens Restaurant and several highway commercial uses. East of North First Street, it is a four-lane arterial with a posted speed limit of 35 mph that serves the recently opened Walmart Store.

A Street – extends in an east-west direction from I-80 to North First Street in downtown Dixon. It ranges from two to four lanes with posted speed limits of 30 to 35 mph. East of North First Street, it becomes East A Street and has two lanes with posted speed limits ranging from 25 to 35 mph.

Traffic Volumes

Figure 4.10-1 shows the location of the study intersections. These intersections were chosen because they are either located on roadways that would provide access to the project, or have otherwise been identified as an important node in the City’s circulation system. It should be noted that ten additional intersections and various roadway segments (not shown on Figure 4.10-1) are also being evaluated as part of the regionally significant project analysis. In addition, the I-80 mainline between Pitt School Road and



Kidwell Road and the on- and off-ramp junctions at Pedrick Road and North First Street are also being studied.

Since the potential impacts of the Proposed Project are being analyzed for weekday p.m. peak hour, Sunday p.m. peak hour, and Saturday afternoon peak hour conditions (for a Tier 2 event), the following sets of traffic counts were conducted:

- Weekday p.m. peak hour: from 4:00 to 6:00 p.m. on a mid-week day (i.e., Tuesday, Wednesday, or Thursday) in January and February 2004.
- Sunday p.m. peak hour: from 2:00 to 5:00 p.m. on consecutive Sundays in January and February 2004.
- Saturday pre- and post- Tier 2 event peak hours: from 12:00 to 1:00 p.m. and from 5:00 to 6:00 p.m. on a Saturday in July 2004.

The weekday p.m. peak hour occurred from 4:30 to 5:30 p.m. at most locations. The peak hour of traffic on I-80 occurred from 4:00 to 5:00 p.m. during the Sunday p.m. peak hour while the peak hour of traffic on Sunday afternoons on the surface streets showed no consistent patterns. No unusual traffic or weather conditions were observed during any of the count periods. Traffic counts were not conducted during holiday periods so as to avoid collecting “atypical” traffic data.

Figure 4.10-2 displays the existing weekday and Sunday p.m. peak hour traffic volumes at the study facilities. This figure also displays the lane configurations and traffic control devices at each intersection.

Figure 4.10-3 shows the existing Saturday afternoon traffic volumes from 12:00 to 1:00 p.m. and from 5:00 to 6:00 p.m. These periods represent the “pre-Tier 2 event” and “post-Tier 2 event” peak hours. It should be noted that the analysis of the Tier 2 event is focused on nine key study intersections, the I-80 mainline between Pitt School Road and Kidwell Road, and the ramp junctions at the N. First Street/Currey Road and Pedrick Road interchanges.

Truck Traffic

Vehicle classification counts were performed at selected locations within the study area to determine the proportion of heavy vehicles (defined as having 3 or more axles) in the traffic stream. The proportion of traffic on I-80 consisting of trucks ranged from 3.0 to 5.5 percent during the weekday p.m. peak hour and from 1.0 to 1.5 percent during the Sunday p.m. peak hour.

Truck traffic on North First Street, Vaughn Road, and Pedrick Road in the vicinity of the project site ranged from 5 to 8 percent during the weekday p.m. peak hour. The notable exception was northbound Pedrick Road approaching I-80 in which trucks represented 12 percent of traffic during the weekday p.m. peak hour, but only 1 percent of traffic during the Sunday p.m. peak hour.

Many of the agricultural and industrial businesses along Pedrick Road were operating significantly below peak conditions at the time of the January/February traffic counts. Inquiries were made with numerous agricultural and industrial businesses (including Valley Farm Transport, Anderson Truss, BasaLite, Campbells, Dixon Truck & Tractor, Cardinal Health, Rinker Materials, AR Ready Mix, Mike Lowrie

Trucking, and Hanson Roof Tile) to develop comparisons of the levels of truck traffic at the time the counts were performed versus the levels of truck traffic during peak summer months. Based on these inquiries, the number of truck loads per day is estimated to increase from a combined 150 during the winter months to approximately 900 during peak summer months. To account for peak summer traffic conditions, the levels of truck traffic observed during the January/February counts on Pedrick Road, Vaughn Road, and North First Street were increased in proportion to the expected increase in truck loads per day. The existing traffic volumes on Figure 4.10-2 reflect these adjustments. The technical calculations presented later explicitly account for the effects of truck traffic on freeway and intersection operations.

Analysis Methodologies

The operation of the roadway system is typically described in terms of level of service (LOS). LOS is a quantitative measure of transportation system operations with LOS A representing free-flow conditions and LOS F representing gridlock conditions. For signalized intersections, the LOS is based on the average control delay per vehicle for all vehicles passing through the intersection. For two-way stop-controlled intersections, the LOS is reported for the entire intersection as well as the minor-street movement with the greatest delay. The LOS is reported at all-way stop intersections based on the average delay of all vehicles passing through the intersection. For the freeway mainline and ramp junctions, the LOS is based on vehicle density. Table 4.10-1 shows the average control delay and vehicle density ranges for each LOS category for the different facilities.

Table 4.10-1

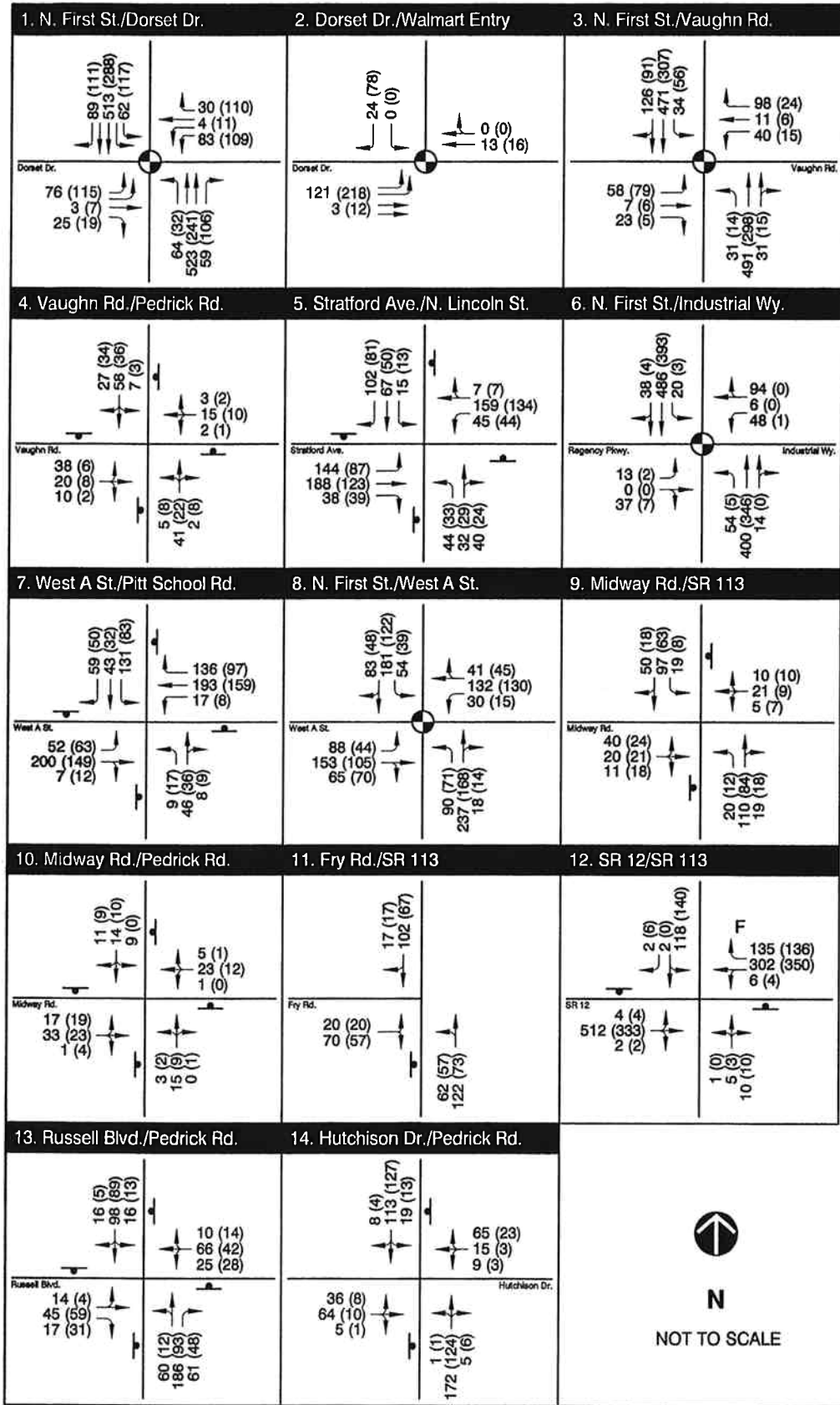
Level of Service Definitions

Level of Service	Average Control Delay (seconds per vehicle)		Density (passenger cars per mile per lane)	
	Signalized Intersections	Unsignalized Intersections	Freeway Mainline	Freeway Ramps
A	≤ 10	≤ 10	≤ 11	≤ 10
B	> 10 to 20	> 10 to 15	> 11 to 18	> 10 to 20
C	> 20 to 35	> 15 to 25	> 18 to 26	> 20 to 28
D	> 35 to 55	> 25 to 35	> 26 to 35	> 28 to 35
E	> 55 to 80	> 35 to 50	> 35 to 45	> 35 to 43
F	> 80	> 50	> 45	> 43

Source: Highway Capacity Manual (Transportation Research Board, 2000).

All analyses were conducted in accordance with methodologies described in the *Highway Capacity Manual* (Transportation Research Board, 2000). Based on guidelines set forth in *City of Dixon Engineering Design Standards and Construction Specifications* (2003), a peak hour factor of 1.0, to reflect hourly traffic conditions (versus traffic conditions during the peak 15-minutes), was assumed at all unsignalized intersections.

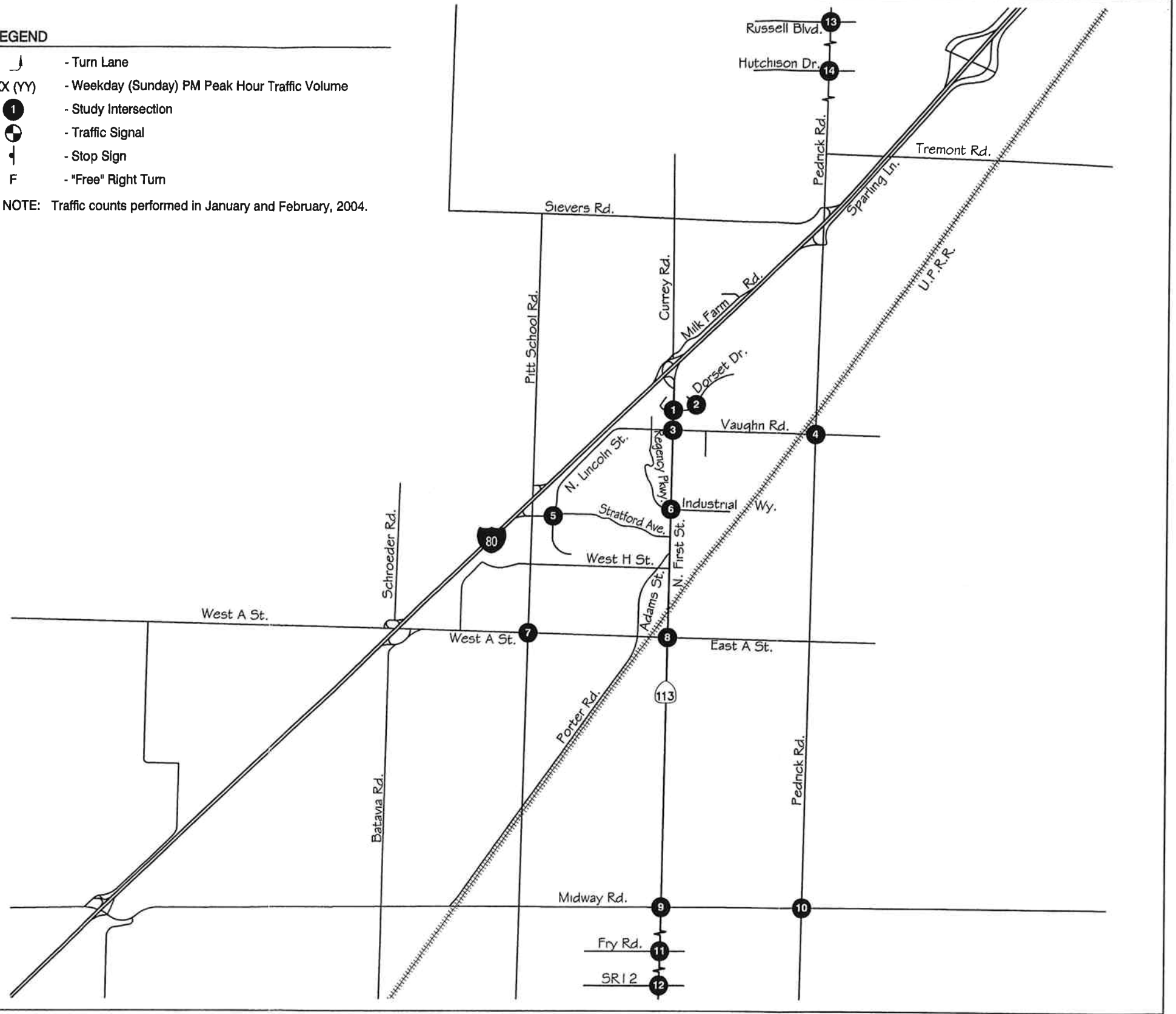
The peak hour volume warrant for a traffic signal (as described in the *Manual of Uniform Traffic Control Devices*, FHWA, 2003) was evaluated at unsignalized intersections. It should be noted that the peak hour signal warrant analysis is not the only basis for deciding whether and when to install a signal. To reach



LEGEND

- Turn Lane
- XX (YY) - Weekday (Sunday) PM Peak Hour Traffic Volume
- Study Intersection
- Traffic Signal
- Stop Sign
- F - "Free" Right Turn

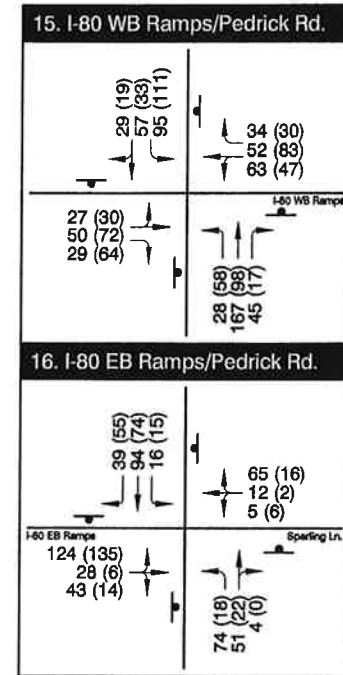
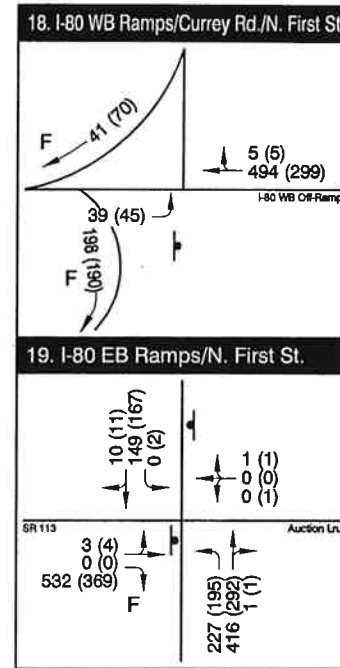
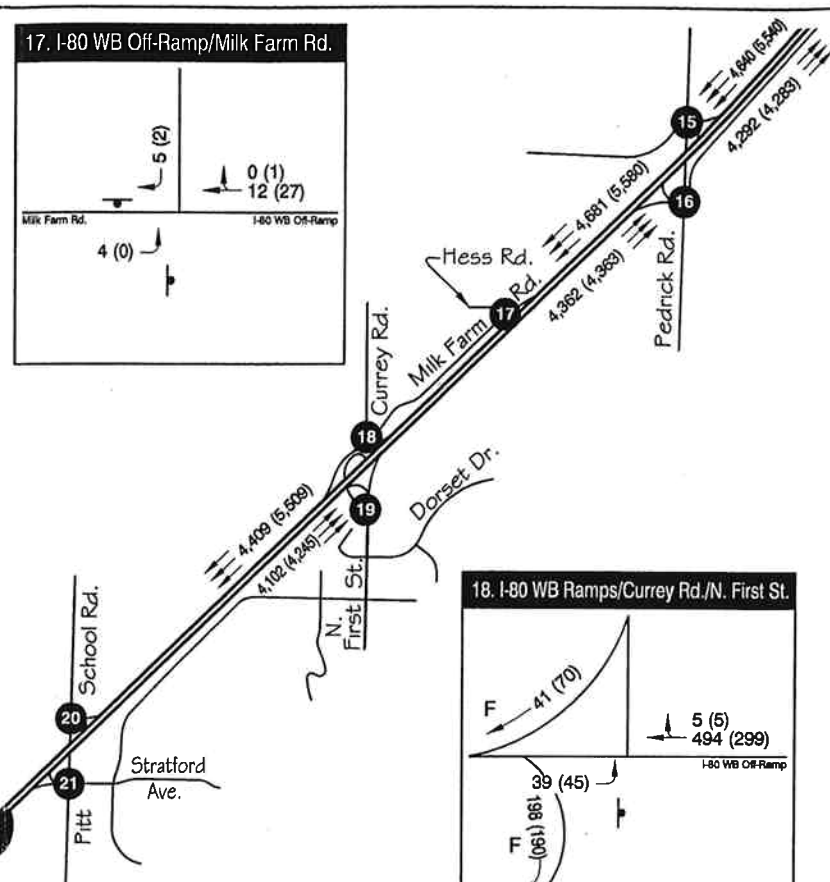
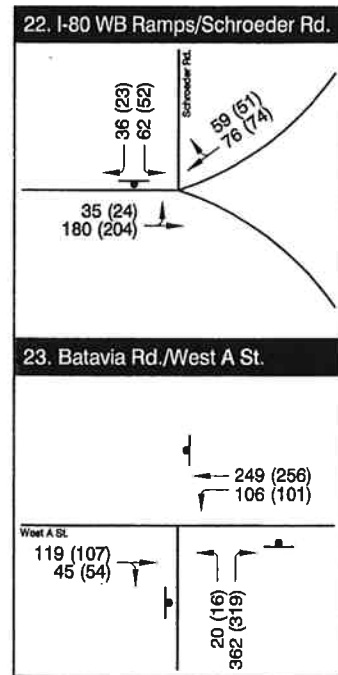
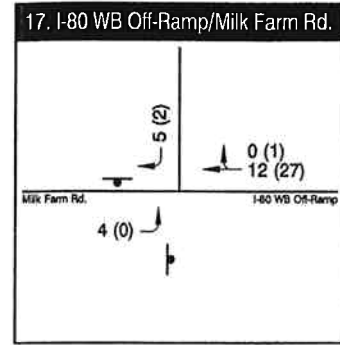
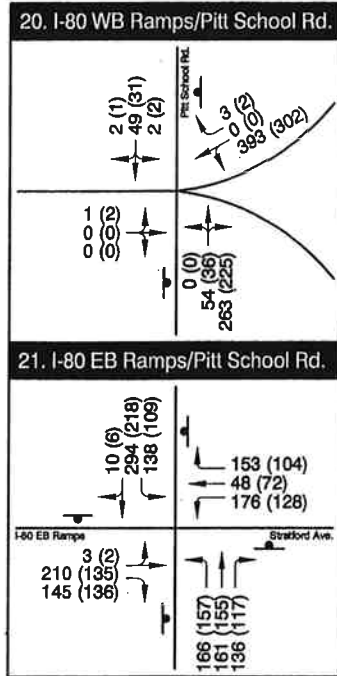
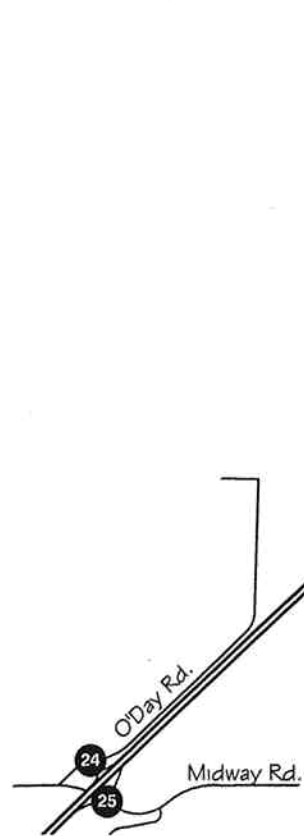
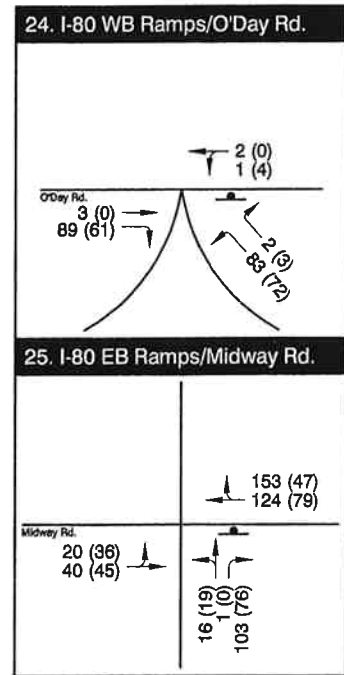
NOTE: Traffic counts performed in January and February, 2004.



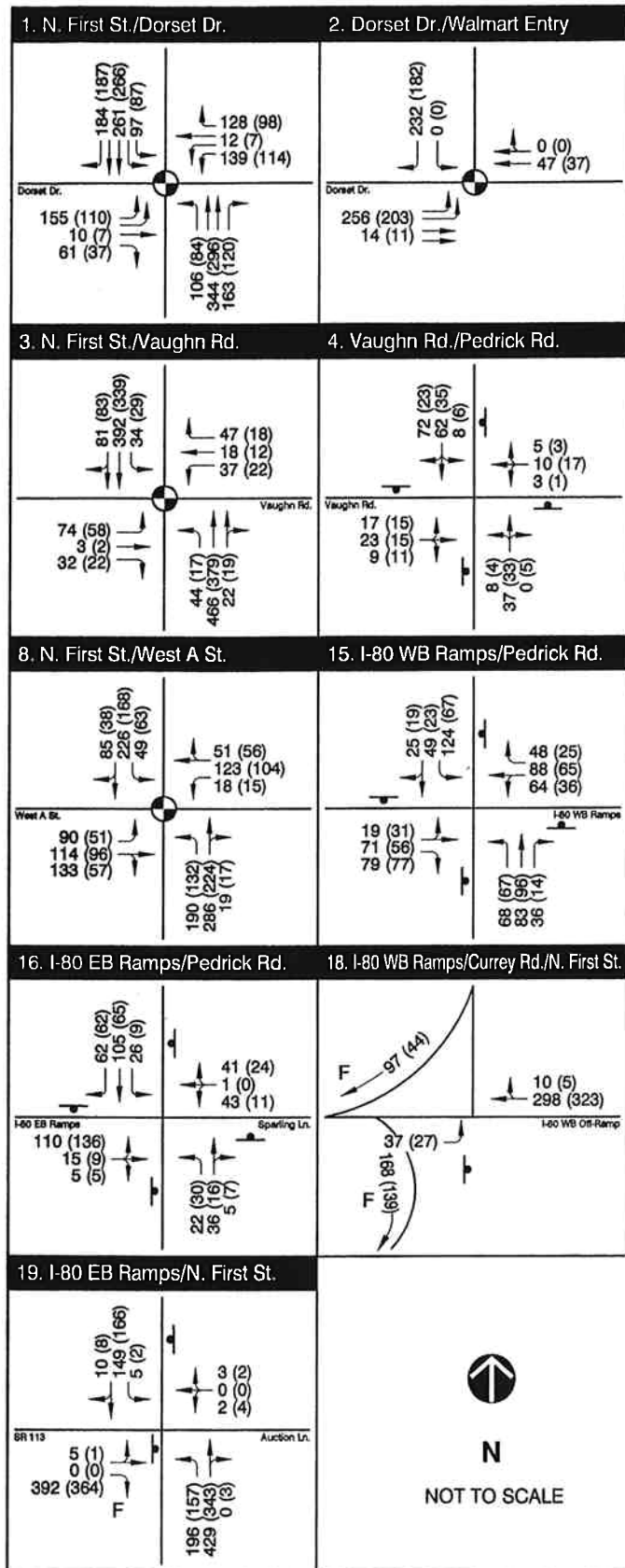
LEGEND

- Turn Lane
- XX (YY) - Weekday (Sunday) PM Peak Hour Traffic Volume
- Study Intersection
- Traffic Signal
- Stop Sign
- F - "Free" Right Turn

NOTE: Traffic counts performed in January and February, 2004.



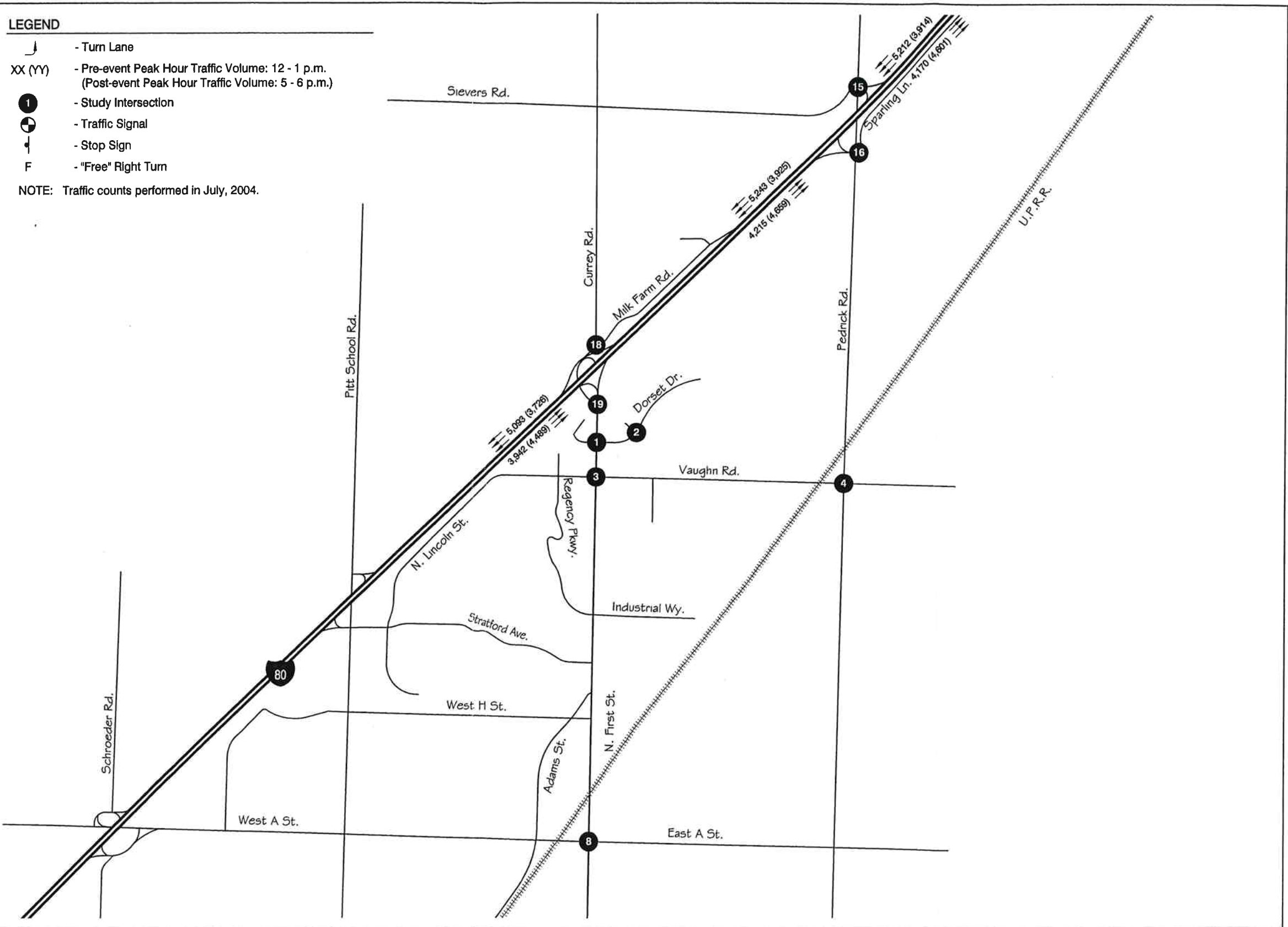
**WEEKDAY AND SUNDAY PM
PEAK HOUR TRAFFIC VOLUMES
AND LANE CONFIGURATIONS -
EXISTING CONDITIONS**
FIGURE 4.10-2 (CONT.)



LEGEND

- Turn Lane
- XX (YY) - Pre-event Peak Hour Traffic Volume: 12 - 1 p.m. (Post-event Peak Hour Traffic Volume: 5 - 6 p.m.)
- Study Intersection
- Traffic Signal
- Stop Sign
- F - "Free" Right Turn

NOTE: Traffic counts performed in July, 2004.



**SATURDAY PRE- AND POST-SPECIAL EVENT
PEAK HOUR TRAFFIC VOLUMES
AND LANE CONFIGURATIONS -
EXISTING CONDITIONS**

such a decision, the full set of warrants should be investigated based on field-measured, rather than forecast, traffic data and a thorough study of traffic and roadway conditions by an experienced engineer.

Operations on roadways of regional significance were analyzed using the peak hour traffic volume level of service thresholds established in the *Solano Comprehensive Transportation Plan* (2002). Table 4.10-2 displays the maximum peak hour traffic volume for each level of service category for various functional roadway classes.

Table 4.10-2

Roadway Segment Level of Service Volume Thresholds

Functional Classification	Number of Lanes	Maximum Peak Hour Traffic Volume (Both Directions) at				
		LOS A	LOS B	LOS C	LOS D	LOS E
Freeway	4	2,100	3,300	4,900	6,200	7,000
	6	3,000	4,700	7,000	8,900	10,500
	8	3,900	6,100	9,100	11,600	14,000
Urban Minor Arterial	2	N/A	N/A	820	1,230	1,380
	4	N/A	N/A	1,730	2,540	2,800
Rural Minor Arterial	2	N/A	N/A	640	1,150	1,250
Collector	2	N/A	N/A	550	820	920

Note: N/A = Not achievable.

Source: Solano Comprehensive Transportation Plan, 2002.

Intersection Operations

The traffic volumes, lane configurations, and traffic control devices shown on Figures 4.10-2 and 4.10-3 were used to analyze the existing LOS at each study intersection. Intersections 9 – 14, 17, and 22 – 25 were evaluated as part of the “regionally significant” project analysis. As such, Table 4.10-3 does not display the LOS results for these intersections (this information is presented later). Table 4.10-3 summarizes the average delay and LOS at each intersection for each peak hour (all technical calculations and traffic signal warrant spreadsheets are provided in Volume 2, Traffic Technical Appendices, in a separately bound document).

According to Table 4.10-3, operations during the weekday and Sunday p.m. peak hours are at LOS C or better at the five signalized intersections and the six all-way stop intersections. All three side-street stop-controlled intersections operate at LOS A overall and at LOS B or C for the stop-controlled movement with the greatest delay.

None of the unsignalized intersections shown on Figure 4.10-2 satisfy the peak hour traffic volume warrant for a traffic signal.

Table 4.10-3

Intersection Levels of Service – Existing Conditions

Intersection	Control	Average Delay ¹ – Level of Service				
		Weekday PM Peak Hour ²	Sunday PM Peak Hour ²	Saturday Pre-Tier 2 Event Peak Hour ²	Saturday Post-Tier 2 Event Peak Hour ²	
1	N. First Street/ Dorset Drive	Traffic Signal	13.4 – B	19.5 – B	14.9 – B	13.8 – B
2	Dorset Drive/ Walmart Entry	Traffic Signal	7.8 – A	8.5 – A	9.4 – A	2.3 – A
3	N. First Street/ Vaughn Road	Traffic Signal	14.4 – B	11.3 – B	11.7 – B	10.2 – B
4	Vaughn Road/ Pedrick Road	All-Way Stop	7.6 – A	7.1 – A	7.6 – A	7.3 – A
5	Stratford Avenue/ N. Lincoln Street	All-Way Stop	10.5 – B	9.3 – A	Not Studied	
6	N. First Street/ Industrial Way	Traffic Signal	12.1 – B	5.4 – A	Not Studied	
7	West A Street/ Pitt School Road	All-Way Stop	10.8 – B	9.6 – A	Not Studied	
8	N. First Street/ West A Street	Traffic Signal	29.0 – C	27.5 – C	28.6 – C	24.8 – C
15	I -80 WB Ramps/ Pedrick Road	All-Way Stop	9.7 – A	9.5 – A	9.9 – A	9.0 – A
16	I -80 EB Ramps/ Pedrick Road	All-Way Stop	9.0 – A	8.3 – A	8.6 – A	8.2 – A
18	I -80 WB Ramps/ Currey Road/ N. First St.	Side-Street Stop	1.0 (13.3) –A (B)	1.5 (11.4) – A (B)	1.2 (11.3) – A (B)	0.9 (11.4) – A (B)
19	I -80 EB Ramps/ N. First Street	Side-Street Stop	2.4 (24.7) –A (C)	2.5 (19.9) – A (C)	2.3 (23.5) – A (C)	2.0 (18.9) – A (C)
20	I-80 WB Ramps/ Pitt School Road	Side-Street Stop	8.3 (16.0) –A (C)	6.4 (12.6) – A (B)	Not Studied	
21	I-80 EB Ramps/ Pitt School Road	All-Way Stop	17.8 – C	13.2 – B	Not Studied	

Notes:

¹ Average control delay (in seconds per vehicle) of all vehicles at signalized and all-way stop-controlled intersections. At side-street stop-controlled intersections, average control delay reported for entire intersection and side-street movement with greatest delay (shown in parentheses).

² Weekday and Sunday PM peak hours occur between 4 and 6 p.m. Saturday pre-Tier 2 event peak hour occurs from 12- 1 p.m. and Saturday post-Tier 2 event peak hour occurs from 5 to 6 p.m.

Source: Fehr & Peers, 2005.

Freeway Operations

Table 4.10-4 displays the existing LOS for each direction of I-80 between Pitt School Road and Kidwell Road for each of the four study hours. Table 4.10-5 displays the existing LOS at the I-80 on- and off-ramp junctions (i.e., merge and diverge areas) at the North First Street/Currency Road and Pedrick Road interchanges for each study hour (refer to Volume 2, Traffic Technical Appendices, for calculations).

Table 4.10-4

I-80 Freeway Mainline Levels of Service – Existing Conditions

Freeway Mainline Segment	Density ¹ – Level of Service			
	Weekday PM Peak Hour ²	Sunday PM Peak Hour ²	Saturday Pre-Tier 2 Event Peak Hour ²	Saturday Post-Tier 2 Event Peak Hour ²
I-80 EB between Pitt School Road and N. First St.	22.7 – C	23.0 – C	21.4 – C	24.4 – C
I-80 EB between N. First Street and Pedrick Road	24.3 – C	23.8 – C	23.0 – C	25.5 – C
I-80 EB between Pedrick Road and Kidwell Road	23.9 – C	23.4 – C	22.7 – C	25.2 – C
I-80 WB between Currency Road and Pitt School Road	24.0 – C	30.6 – D	28.1 – D	20.2 – C
I-80 WB between Pedrick Road and Currency Road	25.8 – C	31.8 – D	29.1 – D	21.3 – C
I-80 WB between Kidwell Road and Pedrick Road	25.5 – C	31.4 – D	28.9 – D	21.2 – C

Notes:

¹ Density expressed as number of passenger cars per mile per lane.

² Weekday and Sunday PM peak hours occur between 4 and 6 p.m. Saturday pre-Tier 2 event peak hour occurs from 12- 1 p.m. and Saturday post-Tier 2 event peak hour occurs from 5 to 6 p.m..

Source: Fehr & Peers, 2005.

All I-80 study freeway segments operate at LOS C during the weekday p.m. peak hour and Saturday post-Tier 2 Event peak hour. Operations are at LOS C in the eastbound direction and LOS D in the westbound direction during the Saturday pre-Tier 2 Event peak hour (12 – 1 p.m.) and Sunday p.m. peak hour. LOS D operations in the westbound direction of I-80 during the Sunday p.m. peak hour are the result of the heavy volume of traffic returning from the mountains and foothills to the Bay Area after a weekend of travel and recreation. During certain peak travel weekends, westbound I-80 operates at worse than LOS D.

The ramp junctions (i.e., ramp merge and diverge areas) at the I-80/Pedrick Road and I-80/N. First Street interchanges each operate at LOS C or D during each of the study hours.

Regionally Significant Roadways

Table 4.10-6 displays the existing weekday and Sunday p.m. peak hour LOS for roadways considered to be of “regional significance”. According to Section 21092.4 of CEQA, regionally significant roadways include major local arterials within five miles of the project site and freeways and highways located within 10 miles of the project site. The *Solano Comprehensive Transportation Plan* was used to identify those roadways that fit these descriptions within the prescribed geographic limits. Field observations were

Table 4.10-5

I-80 Ramp Junction Levels of Service – Existing Conditions

Freeway Ramps Junctions	Density ¹ – Level of Service			
	Weekday PM Peak Hour ²	Sunday PM Peak Hour ²	Saturday Pre-Tier 2 Event Peak Hour ²	Saturday Post-Tier 2 Event Peak Hour ²
N. First Street/I-80 EB Off-Ramp	27.5 – C	27.8 – C	26.7 – C	29.4 – D
N. First Street/I-80 EB On-Ramp	25.0 – C	24.0 – C	24.3 – C	26.2 – C
Currey Road/I-80 WB Off-Ramp	31.2 – D	34.2 – D	33.4 – D	27.2 – C
Currey Road/I-80 WB Loop On-Ramp	24.2 – C	29.1 – D	27.8 – C	20.8 – C
Currey Road/I-80 WB On-Ramp	23.3 – C	28.4 – D	Not Studied	
Pedrick Road/I-80 EB Off-Ramp	29.2 – D	28.7 – D	28.3 – D	30.5 – D
Pedrick Road/I-80 EB On-Ramp	23.9 – C	23.3 – C	23.1 – C	25.3 – C
Pedrick Road/I-80 WB Off-Ramp	30.3 – D	33.9 – D	33.0 – D	26.7 – C
Pedrick Road/I-80 WB On-Ramp	25.8 – C	29.8 – D	28.8 – D	21.9 – C

Notes:

¹ Density expressed as number of passenger cars per mile per lane.² Weekday and Sunday PM peak hours occur between 4 and 6 p.m. Saturday pre-Tier 2 event peak hour occurs from 12- 1 p.m. and Saturday post-Tier 2 event peak hour occurs from 5 to 6 p.m..

Source: Fehr & Peers, 2005.

conducted to classify roadways not included in the *Solano Comprehensive Transportation Plan*. It should be noted that several important roadways adjacent to the project site are not included in Table 4.10-6 because the key intersections along these streets are already being analyzed in a more localized context (see Table 4.10-3).

All of the regionally significant collector and arterial roadways operate at LOS C or better during the weekday and Sunday p.m. peak hours. Operations on the freeway segments of I-80, I-505, and SR 113 range from LOS A to E depending on the location, study period, and number of lanes.

Transit System

Readi-Ride Transit Service is a public dial-a-ride transit system that provides curb-to-curb transit service within the Dixon City limits. It operates from 7:00 a.m. to 6:00 p.m. and fares range from \$1.00 to \$1.50 per trip. Seniors and handicapped fares are \$1.00, adults \$1.50, youth (ages 5-17) \$1.25, and children under 4 years of age \$0.50. Fixed-route bus operations are not currently provided within the City limits. Fairfield/Suisun Transit Route 30 provides service from Fairfield and Suisun through Dixon to UC Davis and Sacramento. It travels each way five times a weekday. The stop in Dixon is at the Market Lane Park and Ride (corner of Market Lane and Pitt School Road).

Table 4.10-6

Regionally Significant Roadway Segment Analysis – Existing Conditions

Roadway	Segment	Functional Class ¹	Number of Lanes (Both Dir.)	Weekday PM Peak Hour		Sunday PM Peak Hour	
				Traffic Volume	Level of Service	Traffic Volume	Level of Service
I-80	I-505 to Leisure Town Road ²	Freeway	8	8,520	C	9,320	D
	Midway Road to West A Street ²	Freeway	6	8,800	D	9,960	E
	Kidwell Road to SR 113 ²	Freeway	8	8,930	C	9,820	D
	Old Davis Road to Richards Blvd. ²	Freeway	8	9,190	D	9,590	D
	Mace Boulevard to Yolo Causeway ³	Freeway	6	8,920	E	9,380	E
SR 113	I-80 to Hutchison Drive ^{2,3}	Freeway	4	3,970	C	2,550	B
	Russell Blvd. to West Covell Blvd. ³	Freeway	4	3,280	B	1,990	A
	West A Street to Midway Road ^{2,4}	Rural Minor Arterial	2	470	C	330	C
	Midway Road to SR 12 ²	Rural Minor Arterial	2	270	C	250	C
I-505	I-80 to Vaca Valley Parkway ²	Freeway	4	2,390	B	2,330	B
	Vaca Valley Parkway to SR 128 ²	Freeway	4	1,350	A	1,870	A
Pedrick Road	Russell Boulevard to Hutchison Dr. ³	Rural Minor Arterial	2	430	C	300	C
	Hutchison Drive to I-80 ^{2,3}	Rural Minor Arterial	2	360	C	300	C
	East A Street to Midway Road ²	Rural Minor Arterial	2	80	C	50	C
Dixon Avenue West	I-80 to Allendale Road ²	Rural Minor Arterial	2	170	C	160	C
Midway Road	I-80 to Batavia Road ²	Rural Minor Arterial	2	330	C	180	C
	Pitt School Road to SR 113 ²	Rural Minor Arterial	2	160	C	100	C
	SR 113 to Pedrick Road ²	Rural Minor Arterial	2	100	C	70	C
	West A Street	I-80 to Pitt School Road ⁴	Urban Minor Arterial	2	680	C	620
Porter Road	Midway Road to West A Street ^{2,4}	Collector	2	180	C	110	C
Russell Boulevard	Pedrick Road to Lake Boulevard ^{3,5}	Rural Minor Arterial	2	220	C	200	C
Hutchison Drive	Pedrick Road to Lake Boulevard ³	Rural Minor Arterial	2	180	C	60	C

Notes:

¹ Functional classification obtained from field observations and the *Solano Comprehensive Transportation Plan* (2002).

² Located in Solano County (unincorporated)

³ Located in Yolo County (unincorporated)

⁴ Located in Dixon

⁵ Located in Davis

Source: Fehr & Peers, 2005.

Rail System

At-grade crossings of the Union Pacific Railroad (UPRR) tracks are located on Pedrick Road and Vaughn Road near the southeast corner of the project site. At-grade crossings also exist on North First Street and West A Street in downtown Dixon. All crossings have crossing gates and operative crossing lights. The UPRR tracks are used for both the movement of passengers and freight. Information relating to the frequency, size, and speeds of freight trains is not readily available. However, field observations reveal that long, moderate-speed trains often create lengthy preemptions. The preemptions can cause substantial delays and congestion particularly at the crossings in downtown.

Capitol Corridor provides passenger rail service between San Jose and Auburn. The trains, which use the UPRR tracks, currently stop in Davis and Suisun/Fairfield with a stop also planned in downtown Dixon in the near future. On weekdays, 12 westbound and 12 eastbound trains are in operation. Capitol Corridor train crossings are normally very short given the train's considerable speed and limited length. It is estimated that a total of between 30 and 40 trains (including freight trains) use the UPRR tracks through Dixon on an average weekday.

Bicycle and Pedestrian System

Bicycle and pedestrian facilities are provided in selected locations within the study area. Within the project vicinity, Class II bike lanes (on-street lanes with appropriate signing and striping) exist on North First Street and Dorset Drive. Portions of Vaughn Road have shoulders of sufficient width for bicycle travel. Sidewalks exist on one or both sides of North First Street, Dorset Drive, and Vaughn Road. The signalized intersections on North First Street have crosswalks with push-button pedestrian actuation. Facilities designated for bicyclists and pedestrians are not provided on Pedrick Road.

The final phase of a bikeway connecting Davis and Dixon was completed in late 2004. Continuous Class II bike lanes are provided on portions of North First Street and Vaughn Road along a route between Old Davis Road in south Davis and North First Street in downtown Dixon.

Regulatory Framework

Federal Regulations

There are no federal policies relating to transportation that are directly applicable to the project.

State Regulations

Policies of the California Department of Transportation (Caltrans) are applicable to the project, and to the extent relevant, are incorporated into the standards of significance to be used to evaluate the significance of project impacts.

Local Regulations

Solano Transportation Authority

The Solano Transportation Authority (STA) is the Congestion Management Agency of Solano County. It is responsible for countywide transportation planning, coordination, financing of priority projects, and

programming of federal, state, and regional transportation funds. Its goals and objectives are to: 1) document transportation needs from both local and countywide perspectives; 2) provide safety and operational improvements; 3) preserve the transportation system; 4) reduce congestion and maintain mobility; 5) improve commute options to the Bay Area and Sacramento regions; 6) promote transit, including intercity bus, rail, and ferries; 7) promote alternative modes such as carpooling, vanpooling, and bicycling; and 8) encourage Transportation for Livable Communities projects. One of the objectives in STA's *Arterials, Highways, and Freeway Element* (2002) is to encourage member jurisdictions and Caltrans to maintain LOS E or better conditions during the a.m. and p.m. peak hours on roadways of countywide significance.

City of Dixon General Plan

The City of Dixon General Plan was adopted by the City Council on December 14, 1993. The plan contains goals, objectives, and policies related to all aspects of new development. Key transportation policy statements from this document are presented below:

POLICY VI.E.1.

1. The City shall ensure that Dixon's existing and proposed street configuration and highway network maintains traffic operations at Level of Service "C" or better, while acknowledging that this objective may be difficult to achieve in those locations where traffic currently operates at Levels of Service below "C" for limited periods of time. Achieving this policy will require a variety of traffic improvements, including:
 - Improving existing arterials;
 - Construction of arterials and collector streets in newly developing areas; and
 - Intersection improvements.

POLICY VI.E.2.

1. The City shall provide additional transportation alternatives to the private automobile (an improved transit system, park-and-ride lots, bicycle facilities, etc.)

POLICY VI.E.3.

1. The City shall encourage the continued development and expansion of local public bus/van transit systems, if it can be demonstrated that the service can be financially supported. New development should be designed to maximize use of public transit where feasible.

POLICY VI.E.4.

1. The City shall support cycling as a transportation mode which promotes personal health, recreation and enjoyment while minimizing energy consumption and air pollution. The City shall improve and expand existing bikeway facilities in accordance with the Bikeways Master Plan, and shall provide connections to newly developed areas, where feasible.

POLICY VI.E.6.

1. The City shall pursue the relocation of State Highway 113 from First Street to Pedrick Road. In the short-term, the City shall encourage the designation of alternative routes for through truck traffic to avoid conflicts within the Downtown area.

POLICY VI.E.7.

1. The City shall pursue the construction of grade separated rail crossings within the Planning Area.

POLICY VI.E.12.

1. The City shall cooperate with Caltrans and other agencies to ensure that transportation facilities are constructed and maintained to appropriate standards.

POLICY VI.E.13.

1. The City shall provide adequate capacity on arterials and collectors to discourage diversion to local streets.

The City of Dixon is contemplating a change in their LOS policy that would permit LOS D conditions throughout the City, and LOS E conditions at certain intersections.¹ At the time this study was prepared, the revised LOS policy was not yet adopted by the City Council. Thus, the LOS policy from the existing general plan (Policy VI.E.1.) was used for this study.

Northeast Quadrant Specific Plan (NQSP)

The project is subject to policies from the *Northeast Quadrant Specific Plan* (Dixon, 1995). Relevant circulation policies include:

- 4.9.1.3 Driveways along primary plan arterials should be limited and restricted to points approved by the City. Parking on all arterial streets should be prohibited by posting.
- 4.9.1.4 Intersections of collector streets with arterial streets should be kept to a minimum. Collector streets should not intersect with a major arterial street closer than 300 feet from another collector/arterial intersection.
- 4.9.1.5 Plan area roadways shall be designed as alternative routes for through truck traffic to avoid conflicts with downtown traffic.
- 4.9.2.1 Level of service at plan area roadways and intersections shall strive to maintain Level of Service C.
- 4.9.3.1 Bicycle and pedestrian circulation systems should be designed to minimize conflicts with the vehicular circulation system. Separation of the cyclist/pedestrian from the automobile should be provided to the extent feasible along the designated Class I bike paths.
- 4.9.4.1 Alternatives to the automobile as the primary means of transportation shall be encouraged. Public transportation services, such as those provided by Dixon Redi-Ride, shall be accommodated in the arterial and collector street system. Dixon Redi-Ride, shall be expanded to the plan area as demand for these services increases.
- 4.9.4.2 Bus turnouts and shelters should be located consistent with City improvement standards. Turnouts should be provided at the time of roadway installation. Shelters and benches should be provided by adjacent projects at the time of construction unless otherwise requires by the City.
- 4.9.5.1 In all cases, park and ride spaces are to be clearly marked through pavement markings and directional signage. Spaces should be reserved exclusively for park and ride on Monday through Friday, from 6:30 a.m. to 6:30 p.m.

1 City of Dixon Public Works Department staff.

- 4.9.5.2 A portion of the park and ride spaces may be included in the normal parking require for a planned business or commercial use if the peak use of the park and ride does not coincide with the peak use of the commercial use and if approved by the City.
- 4.9.5.3 Plan area employers shall provide ridesharing facilities to encourage alternatives to automobile commuting including vanpool and carpool parking.²

Standards of Significance

For the purposes of this EIR, impacts associated with transportation are considered significant if the Proposed Project would:³

Roadway System

- Cause the existing (or future year) level of service at a City of Dixon intersection (including those located on North First Street) to worsen from LOS C or better to LOS D or worse;
- Cause the average delay at a City of Dixon intersection (including those located on North First Street) that is already (or projected to be) operating at LOS D or worse to increase by more than five seconds;
- Cause an I-80 mainline segment, ramp junction, or ramp terminal intersection to worsen from LOS D or better to LOS E or F;
- Cause traffic levels on an I-80 mainline segment, ramp junction, or ramp terminal intersection that is already (or projected to be) operating at LOS E or F to increase by 2.5 percent or more; or
- Cause a substantial reduction in safety on a public street due to a design feature (e.g., sharp curve) or incompatible use (e.g., farm equipment).

Transit System

- Not provide adequate facilities to encourage the use of public transit.

Rail System

- Cause a substantial increase in potential conflicts between trains and motorists at an at-grade railroad crossing.

2 This policy is probably unenforceable pursuant to SB 437 (Health and Safety Code §40717.9). (See discussion on pages 4.2-11 and 4.2-12.) That statute prohibits the City and other public agencies from requiring an employer to implement an employee trip reduction program “unless the program is expressly required by federal law and the elimination of the program will result in the imposition of federal sanctions, including but not limited to, the loss of federal funds for transportation purposes.”

3 The sources referenced to develop these standards include Appendix G of the *CEQA Guidelines* (2004), *City of Dixon General Plan (1993)*, *City of Dixon Engineering Design Standards and Construction Specifications* (2003), *Interstate 80 Transportation Concept Report – TCR* (Caltrans, District 3, 2001), and *State Route 113 Transportation Concept Report* (Caltrans, District 3, 2000).

Bicycle and Pedestrian System

- Disrupt or interfere with existing or planned bicycle or pedestrian facilities.

Project Access, Internal Circulation, and Parking

- Provide inadequate emergency access;
- Provide an inadequate number of on-site parking spaces; or
- Provide inadequate access and internal circulation for vehicles, pedestrians, and bicyclists.

Standards of Significance for Regionally Significant Project Analysis

A significant impact would occur on a region-wide basis if implementation of the Proposed Project would:

- Cause a study segment of I-80 or I-505 in Solano County to worsen from LOS D or better to LOS E or worse;
- Cause traffic levels on a study segment of I-80 or I-505 in Solano County that already operates at LOS E or F to increase by 2.5 percent or more;
- Cause a study segment of I-80 or SR 113 in Yolo County to worsen from LOS E or better to LOS F;
- Cause a regionally significant arterial or collector roadway to worsen from LOS C or better to LOS D or worse; or
- Cause the peak hour volume warrant for a traffic signal to be met and degrades the unsignalized intersection from LOS C or better to LOS D or worse.

Caltrans staff was contacted to identify an appropriate LOS standard for I-80 in Solano County. The TCR for this segment was out of date and a recommended LOS standard was not provided. LOS D was selected as the operating standard for the segment of I-80 in Solano County because it is bracketed by STA's objective of achieving LOS E or better on roadways of countywide significance and the Caltrans' objective of maintaining a target LOS at the transition between C and D when such a target can be achieved (as described in the *Guide for the Preparation of Traffic Impact Studies*, Caltrans, 2002).

The standard of significance selected to identify impacts on I-80 (i.e., a 2.5 percent or more increase in traffic for facilities operating at LOS D or E) is somewhat analogous to the five-second delay standard used for intersections (i.e., a five-second increase in delay drops the LOS by about one-quarter of a grade). At the same time, this standard also considers the substantial effects a small increase in traffic can cause on a roadway already at capacity.

Methods of Analysis

This section describes the analysis techniques that were used to evaluate the transportation impacts of Phases 1 and 2 of the project for both Tier 1 and Tier 2 events.

Trip Generation

Phase 1 – Tier 1 Event (Live Horseracing)

Information contained in *Trip Generation, 7th Edition* (Institute of Transportation Engineers, 2003) was initially consulted to estimate the trip generation of a live horseracing event. However, it was apparent, based on the lack of data in *Trip Generation* and the uncertainty of the results, that detailed studies of attendance trends and trip generation at comparable facilities in Northern California would be necessary to develop reasonable and defensible estimates of the project's expected trip generation.

Fehr & Peers performed traffic counts at the Bay Meadows Racetrack (in San Mateo) on Thursday, October 30, 2003 and at the Golden Gate Fields Racetrack (in Albany) on Wednesday, November 19, 2003. The number of vehicles entering and exiting the parking lots serving each track was recorded from 11 a.m. to 6 p.m. Table 4.10-7 summarizes the results. Since all parking lots were counted, the numbers in Table 4.10-7 include trips made by race patrons, track employees, buses, and taxis.

Table 4.10-7

Summary of Traffic Counts at Bay Meadows and Golden Gate Fields

Facility	Count Date	Attendance on Count Day	Peak Hour Traffic Volume	Peak Hour Trips Per Attendee
Bay Meadows	October 30, 2003	1,919	1,018	0.53
Golden Gate Fields	November 19, 2003	1,852	822	0.44

Notes:

- Attendance figures provided by Magna.
- Peak hour of inbound/outbound traffic (measured by Fehr & Peers) at each facility occurred from 4 to 5 p.m.
- CalTrain has a stop at Bay Meadows, which was used by 42 racetrack attendees from 4 to 5 p.m. on the count day. These transit-users were converted into equivalent automobile trips assuming one person per vehicle. Thus, the 1,018 trips for this facility include attendees traveling to/from the site via transit.

Source: Fehr & Peers, 2005.

Figure 4.10-4 displays the temporal distribution of traffic entering and exiting each facility. It shows a pronounced surge in traffic (primarily in the outbound direction) between 4 and 5 p.m. as patrons depart the racing event.

According to information provided by the operator of both facilities (Magna), the median mid-weekday attendance for the 2003 race season at Bay Meadows was 1,836 persons (the track was closed on Tuesdays and Mondays, and Fridays are not considered typical weekdays). The median mid-weekday attendance (on Tuesdays, Wednesdays, and Thursdays) for the 2003 race season at Golden Gate Fields was 1,662 persons. Thus, the date in which traffic was counted at Bay Meadows had an attendance total that was 4.5 percent over the median weekday attendance. For Golden Gate Fields, the day that was sampled had an attendance level that was 11 percent over the median weekday attendance. Hence, the

days that were studied are considered to be representative of “typical” mid-weekday operations at each facility.

The traffic impacts of a Tier 1 event (an attendance of up to 6,800 people), were evaluated for the following attendance and timeframe scenarios:

- Weekday p.m. peak hour conditions – 55 percent occupancy (3,740 attendees)
- Sunday p.m. peak hour conditions – 75 percent occupancy (5,100 attendees)
- Sunday p.m. peak hour conditions – 100 percent occupancy (6,800 attendees)

The assumed typical weekday attendance level of 3,740 persons is substantially greater than the median attendance levels observed at either Golden Gate Fields or Bay Meadows. This assumption, which provides for a conservative analysis of project impacts, is based on the assumption that Dixon Downs will be more successful than either Bay Area track.

The peak hour trip generation of Phase 1 was computed by multiplying the total expected attendance by the trip rate of 0.5 trips per attendee, which is slightly greater than the average trip rate observed at the two Bay Area tracks. This trip rate does not necessarily imply that there are 2 persons in each vehicle. Rather, this trip rate is based on the observed relationship between total attendance and trips entering/exiting the two Bay Area tracks during the p.m. peak hour.

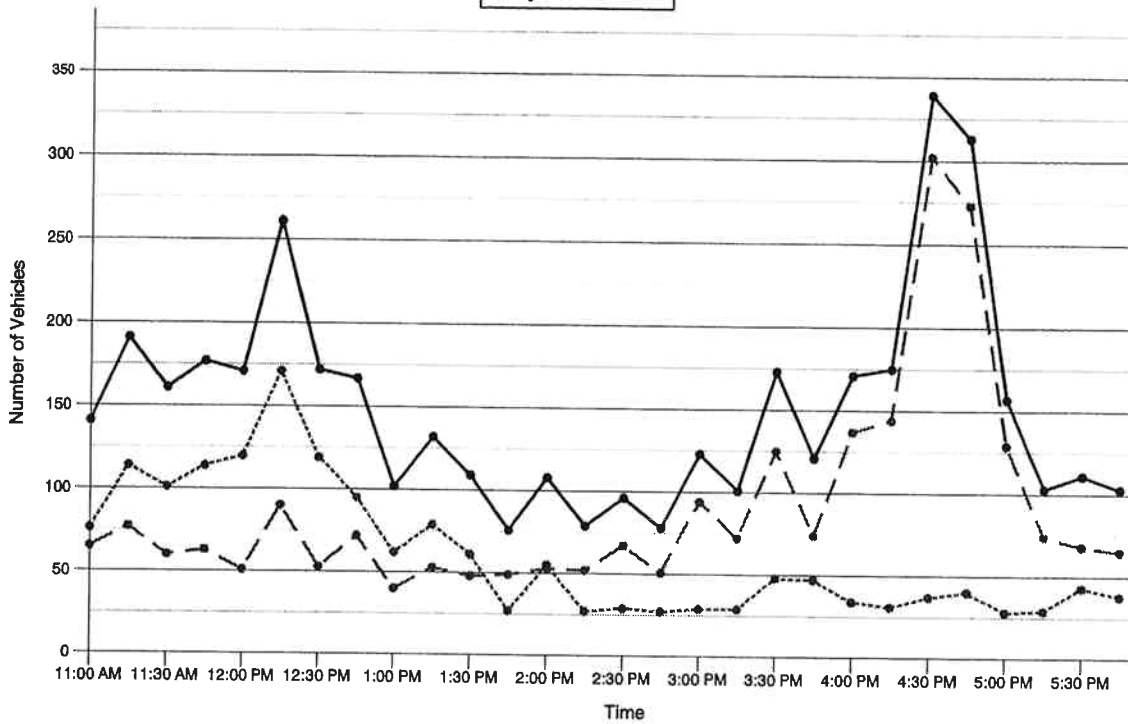
Table 4.10-8 displays the weekday and Sunday p.m. peak hour trip generation of a Tier 1 event with the above attendance scenarios. The analysis in Table 4.10-8 assumes 100 percent retail because it is more conservative from a trip generation perspective than assuming any office uses.

Phase 1 – Tier 2 Event

The project applicant has indicated that Tier 2 events (e.g., large horse racing events, live concerts, trade shows, etc. which assumes an attendance of between 6,800-15,000 people), would likely occur periodically during a typical year. A live concert was selected for analysis because it represents a “worst-case” event given its pronounced surges in traffic before and after the concert. A Saturday concert was assumed to begin at 1:00 p.m. and end at 5:00 p.m. This scenario provides for a more conservative evaluation of off-site impacts than a weekday evening concert event (with a 7 to 8 p.m. start time) because it would have greater levels of Phase 2 trips generated and comparable levels of background traffic. An analysis of “post-concert” conditions during the Sunday p.m. peak hour was also conducted given the traffic congestion that frequently occurs on westbound I-80 during Sunday afternoons.

Several studies of the arrival and departure patterns of spectators for live concerts have been conducted by various agencies and consulting firms. Data collected at the Los Angeles Coliseum and Staples Arena in Southern California, Raley’s Field in Sacramento, and Shoreline Amphitheater in Mountain View were analyzed. The data suggests that traffic arrives at a live concert over several hours, but departs the site in a more compressed period of time after the concert ends. For analysis purposes, 40 percent of concert attendees were assumed to arrive at the project site during the one-hour prior to the beginning of the concert. Conversely, 75 percent of attendees were assumed to depart the site within the one-hour after the concert ends. An average vehicle occupancy of 2.8 persons per vehicle was assumed. This is on the

Bay Meadows

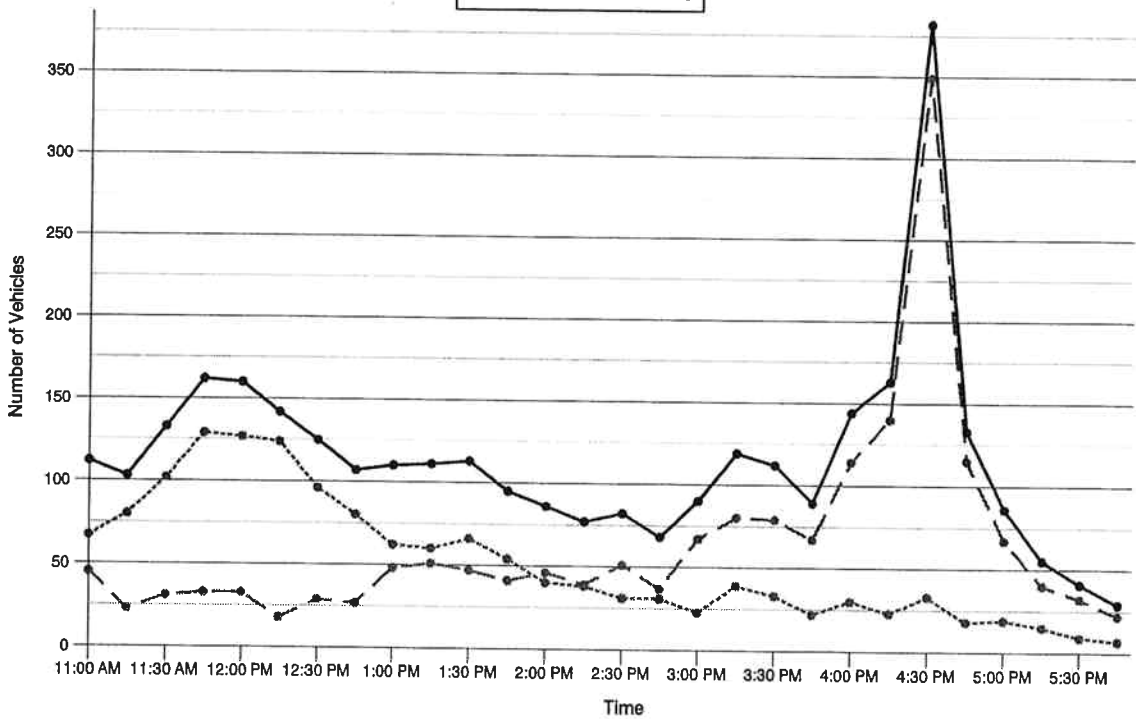


LEGEND

..... - Inbound Traffic - - - - - Outbound Traffic ——— Total Traffic

Counts performed on October 30, 2003.

Golden Gate Fields



LEGEND

..... - Inbound Traffic - - - - - Outbound Traffic ——— Total Traffic

Counts performed on November 19, 2003.

Table 4.10-8

Trip Generation of Phases 1 and 2 With a Tier 1 Event

Land Use	Quantity	PM Peak Hour					
		Trip Rate			Trips		
		Weekday (55% Att.)	Sunday (75% Att.)	Sunday (100% Att.)	Weekday (55% Att.)	Sunday (75% Att.)	Sunday (100% Att.)
Phase 1 – Tier 1 Event (Live Horseracing)							
Horse Racetrack	N/A	3,740 attendees (0.5 trips/att.) ¹	5,100 attendees (0.5 trips/att.) ¹	6,800 attendees (0.5 trips/att.) ¹	1,870	2,550	3,400
Phase 2 – General Commercial Uses							
General Retail	880 ksf ⁴	2.99	2.74 ²	2.74 ²	2,631	2,411	2,411
Movie Theater	70 ksf	4.94	4.94 ³	4.94 ³	346	346	346
Hotel	240 rooms	0.59	0.56	0.56	142	134	134
Conference Facility	50 ksf	N/A ⁵			208	150	150
Internal Trips Within Phase 2 (5% assumed)					- 166	- 152	- 152
Sub-Total					3,160	2,889	2,889
Internal Trips Between Phases 1 and 2 (5% for weekday PM Peak Hour & 10% for Sunday PM Peak Hour)					- 187	- 510	- 680
Pass-By/Diverted Trips to Phase 2 Retail (20% of non-internal trips)					- 510	- 466	- 452
New Trips – Phases 1 and 2					4,333	4,463	5,157

Notes:

¹ Refer to previous page for development of racetrack trip rate.

² According to *Trip Generation* (ITE, 2003), shopping centers over 300,000 square feet generate 23 percent less daily traffic on a Sunday than on a typical weekday, the percentage of inbound traffic during the p.m. peak hour decreases from 8.3 percent to 5.5 percent of the daily total, and the percentage of outbound p.m. peak hour traffic increases from 9.5 percent to 15.7 percent. Thus, the Sunday p.m. peak hour trip generation is 8 percent lower than the weekday p.m. peak hour. However, the percentage of trips that are outbound increases from 52 to 74 percent.

³ Since a Sunday p.m. peak hour trip rate was not provided, Sunday PM peak hour trips were assumed to be the same as weekday p.m. peak hour trips.

⁴ The 880 ksf represents the maximum amount of retail that could be developed.

⁵ Refer to following pages for methodology used to estimate conference facility trips.

N / A = Not Applicable.

Ksf = thousand square feet.

Att. = Number of race attendees.

Source: Fehr & Peers, 2005.

more conservative end of the generally-accepted range of 2.5 to 3.5 persons per vehicle for live concerts and sporting events.

Based on the above assumptions, a 15,000-person concert is expected to generate approximately 2,140 inbound vehicle trips during the one-hour prior to the start of the concert and 4,020 outbound trips during the one-hour after the concert ends. Employee trips are assumed to be made prior to and after these hours. Since Dixon Downs will remain open to provide simulcast wagering and other activities during live concerts, a modest number of additional trips (assumed to be 100 trips per hour) were also assumed.

Table 4.10-9 displays the Tier 2 event peak hour trip generation estimates assuming the “worst-case” scenario of a live concert with an attendance of 15,000 persons.

Table 4.10-9

Trip Generation of Phases 1 and 2 With a Tier 2 Event

Land Use	Quantity	Trip Rate		Trips	
		Saturday "Pre-Tier 2 Event" Peak Hour	Saturday Post-Tier 2 Event" Peak Hour	Saturday "Pre-Tier 2 Event" Peak Hour	Saturday "Post-Tier 2 Event" Peak Hour
Phase 1 – Tier 2 Event (Live Concert)					
Live Concert	N/A	N/A ¹		2,240	4,120
Phase 2 – General Commercial Uses					
General Retail	880 ksf	4.69 ²	3.83 ²	4,124	3,368
Movie Theater	70 ksf	4.79 ³	4.94 ³	335	346
Hotel	240 rooms	0.56	0.56	134	134
Conference Facility	50 ksf	N/A		50	150
Internal Trips Within Phase 2 (2% assumed)				- 92	- 80
Sub-Total				4,551	3,918
Internal Trips Between Phases 1 and 2 (5% for "Pre-Tier 2 Event" and 10% for "Post-Tier 2 Event" Peak Hours)				- 107	- 804
Pass-By/Diverted Trips to Phase 2 Retail (15% of non-internal trips)				- 604	- 446
New Trips – Phases 1 and 2				6,080	6,788

Notes:

¹ Refer to previous page for Tier 2 event trip generation assumptions.² According to *Trip Generation*, shopping centers over 300,000 square feet generate 28 percent more daily traffic on a Saturday than on a typical weekday with 10.9 percent of daily trips from 12-1 p.m. and 8.9 percent of daily trips from 5-6 p.m.³ Saturday trip rates not provided in *Trip Generation* for movie theater, hotel and conference facility uses. Trip rates for the two study periods were selected based on trip rates reported for periods expected to have comparable levels of activity (e.g., Friday and Saturday evenings for movie theaters).

Ksf = thousand square feet.

N / A = Not Applicable.

Source: Fehr & Peers, 2005.

Phase 1 – Tier 3 Event

Tier 3 events would occur very infrequently (at most once per year, and more likely once every several years according to the project applicant). Given their very infrequent nature and the lack of certainty associated with attendance and operations, Tier 3 events are qualitatively described in terms of their potential impacts to the roadway system.

Phase 2 – General Commercial Uses

The trip generation of the specific land uses assumed in Phase 2, with the exception of the conference facility, was estimated using trip generation rates published in *Trip Generation*. The trip generation of the conference facility was estimated by assuming a 300-person conference with 25 percent of attendees staying at the adjacent hotel and 75 percent of attendees departing the site during the weekday p.m. peak hour. Assuming an average vehicle occupancy of 1.3 persons per vehicle, 170 outbound trips and 40 inbound trips would be generated by the conference facility. Table 4.10-8 displays the expected

weekday and Sunday p.m. peak hour trip generation of Phases 1 and 2 for a Tier 1 event. Table 4.10-9 displays the expected trip generation for a Tier 2 event.

A portion of trips generated by Phase 2 will be “pass-by” or “diverted” trips. A “pass-by” trip is made by a motorist already on the adjacent roadway (i.e., Dorset Drive) that enters the project site en-route to a different final destination. A “diverted” trip is made by a motorist already on a parallel or nearby street that changes his/her travel route in order to access the project. Diverted trips would originate initially from Interstate 80 and North First Street primarily, and Vaughn Road and Pedrick Road to a lesser extent.

The percentage of Phase 2 trips that are pass-by and diverted would depend on the amount of traffic from which these trips can be taken. Under existing conditions, no pass-by traffic can be reasonably assumed (because Dorset Drive carries no traffic along the project site). However, I-80 and North First Street carry adequate levels of traffic to support diverted trip percentages as specified in the *Trip Generation Handbook* (ITE, 2000). Although diverted trips are subtracted from the trip generation totals in Tables 4.10-8 and 9, these trips are assigned through the study intersections en route to/from the site.

Table 4.10-8 shows that 5 percent of Phase 2 trips are assumed to be internalized (e.g., a trip from the retail uses to the movie theater) during the weekday p.m. peak hour. This internalization percentage is supported by data from the *Trip Generation Handbook*. In fact, this reference indicates that internalization percentages of 10 to 20 percent may be achieved with certain mixes of uses. However, the 5 percent internalization rate was selected to ensure that project impacts are not understated.

The percentage of trips expected to be internal between Phases 1 and 2 was the subject of considerable evaluation. Dixon Downs is envisioned as an entertainment destination where patrons shop, go to the races, see a movie, and/or have dinner. However, the lack of comparable facilities for which internalization can be measured presented a considerable challenge in establishing a definitive internalization rate. Therefore, for study purposes, a relatively small percentage of trips, 5 percent for the weekday p.m. peak hour and 10 percent for the Sunday p.m. peak hour, was assumed to be internal between Phases 1 and 2 for Tier 1 events. The internalization percentage was assumed to be slightly greater for Sunday than for the weekday based on the presumption that Sunday attendees may arrive in larger groups (e.g., families, groups of friends) and tend to engage in other on-site activities in addition to horse racing. For the Tier 2 event, 5 percent of attendees were assumed to visit the Phase 2 land uses prior to the event and 10 percent of attendees were assumed to visit the Phase 2 land uses after the event.

Table 4.10-10 summarizes the number of new trips each phase of the project would generate during each study period.

Trip Distribution

The distribution of trips generated by Phase 1 would depend on a number of factors including the geographic market it will target (by advertisements on radio, TV, internet, newspapers, billboards, etc.), general population density and distribution, socioeconomic status of bettors, propensity of bettors to “follow the horses”, traffic congestion, travel time, and other considerations. Of these factors, the target market and regional population distribution are expected to be the most influential.

Table 4.10-10

Trip Generation Summary

Scenario	Assumption	New Trips			
		Weekday PM Peak Hour	Sunday PM Peak Hour	Saturday "Pre-Tier 2 Event" Peak Hour	Saturday "Post-Tier 2 Event" Peak Hour
Phase 1 – Tier 1 Event (Live Horseracing)	3,740 Attendees	1,870	-	-	-
	5,100 Attendees	-	2,550	-	-
	6,800 Attendees	-	3,400	-	-
Phase 1 – Tier 2 Event	15,000 Attendees ¹	-	-	2,240	4,120
Phases 1 and 2 – Tier 1 Event (Live Horseracing)	3,740 Attendees	4,333	-	-	-
	5,100 Attendees	-	4,463	-	-
	6,800 Attendees	-	5,157	-	-
Phases 1 and 2 – Tier 2 Event	15,000 Attendees	-	-	6,080	6,788

Note:

¹ Trip generation for Phase 1 – Tier 2 event also includes a modest number of trips to the racetrack for satellite wagering, horse training, etc.

Source: Fehr & Peers, 2005.

The project applicant has stated that its target market includes “the Sacramento metropolitan area (including West Sacramento), Woodland, Winters, Vacaville, Fairfield, Suisun City, Dixon, and Davis.” The applicant also stated that it is unlikely that Dixon Downs patrons would travel more than one hour to reach the project site. In addition, live races would not be held simultaneously at Dixon Downs and either one of the Bay Area tracks, per the California Horse Racing Board. Zip code data (or other information) from either Bay Area track was unavailable.

Given the existing and projected levels of traffic congestion in the region, a concentric circle with a 45-mile radius approximates a one-hour drive time. Dixon Downs may become a regional destination for weekday recreation and could attract residents living as far as 60 miles away from the site. Data from the 2000 Census was used to develop a population density distribution within a 30-mile radius of Dixon Downs, within 30 to 45 miles of Dixon Downs, and within 45 to 60 miles of Dixon Downs. Table 4.10-11 summarizes the findings.

The data in Table 4.10-11 suggests that the majority of residents living within a 45-mile radius of Dixon Downs are located to the east. This appears consistent with the project applicant’s stated target market, which includes various population centers east of the project site.

The City and consultant team discussed the appropriate “weighting” of each population density range. It was agreed that for weekday p.m. peak hour conditions, the population distribution within 30 miles would be given a 70 percent weighting, the population distribution between 30 and 45 miles would be given a 20 percent weighting, and the population distribution between 45 and 60 miles would be given a 10 percent weighting. During the Sunday p.m. peak hour, the percentages for each category would be 60, 25, and 15. These assumptions consider both the primary target market as stated by the applicant,

Table 4.10-11
Population Density Distribution

Directionality	Percentage of Total Population		
	Within 30-mile radius of Dixon Downs	Within 30 to 45 miles of Dixon Downs	Within 45 to 60 miles of Dixon Downs
To/from the west along I-80	18%	38%	80%
To/from the east along I-80	75%	55%	17%
To/from the south along SR 113	5%	5%	3%
To/from the north along I-5 and I-505	2%	2%	0%

Source: 2000 Census data and interpretation by Fehr & Peers of routes likely to be used by motorists.

the general population distribution, drive time, and the likelihood of some longer distance trips (particularly on weekends).

Table 4.10-12 shows the expected geographic distribution of Phase 1 – Tier 1 event (Live Horseracing) trips. Sensitivity tests found that a 5 to 10 percent shift in weighting from one concentric circle to another would have little effect on the overall geographic distribution.

The distribution of Phase 2 trips is also dependent on the regional population distribution. However, unlike Phase 1 – Tier 1 event, it would also be affected by the presence of competing attractions such as the Vacaville Factory Outlets and Westfield Shoppingtown Mall in Fairfield. Given these uses, a slightly greater percentage of Phase 2 trips (versus Phase 1) are expected to be to/from the east. In addition, a slightly greater percentage of Phase 2 trips are expected to remain within Dixon than Phase 1 trips.

Similar to a live horseracing event, a Tier 2 event is expected to exhibit a directionality of trips that is generally proportional to the regional population distribution. Thus, the percentages shown in Table 4.10-12 were also assumed for the Tier 2 event scenario.

Table 4.10-12
Geographic Distribution of Phase 1 – Tier 1 Event (Live Horseracing) Trips

Directionality	Weekday PM Peak Hour	Sunday PM Peak Hour
To/from the west along I-80	$18\%*70\% + 38\%*20\% + 80\%*10\% = 28\%$	$18\%*60\% + 38\%*25\% + 80\%*15\% = 32\%$
To/from the east along I-80	$75\%*70\% + 55\%*20\% + 17\%*10\% = 65\%$	$75\%*60\% + 55\%*25\% + 17\%*15\% = 61\%$
To/from the south along SR 113	$5\%*70\% + 5\%*20\% + 3\%*10\% = 5\%$	$5\%*60\% + 5\%*25\% + 3\%*15\% = 5\%$
To/from the north along I-5 and I-505	$2\%*70\% + 2\%*20\% + 0\%*10\% = 2\%$	$2\%*60\% + 2\%*25\% + 0\%*15\% = 2\%$

Note: Distribution percentages calculated by multiplying the percentage of population within each population distribution range by the “weighting” factor described previously.

Source: Fehr & Peers, 2005.

Trip Assignment

Several travel routes are available for motorists traveling between the project site and to/from the west on I-80. Figure 4.10-5 shows six potential routes. Route 1 is North First Street to I-80. Route 2 is Lincoln Street to Pitt School Road to I-80. Route 3 is Stratford Avenue to Pitt School Road to I-80. Route 4 is North First Street to West A Street to I-80. Route 5 is North First Street to Porter Road to Midway Road to I-80. Route 6 is North First Street to SR 113 to Midway Road to I-80.

Travel time runs were performed during the weekday p.m. peak hour for each route. Table 4.10-13 displays the average travel time (and distance) for each route. Travel conditions on I-80 were 'free-flow' at the time of the surveys. This table also displays the expected travel time for each route assuming travel speeds on I-80 are reduced to 35 mph and 15 mph due to congestion.

Table 4.10-13

Travel Time Comparison of Alternative Routes¹

Route	Distance	Travel Time (Minutes :Seconds) Average Travel Speed		
		Existing Weekday PM Peak Hour ²	Assuming Average Travel Speed on I-80 of 35 mph ³	Assuming Average Travel Speed on I-80 of 15 mph ³
1) N. First Street to I-80	6.0 mi.	7:30 48 mph	12:00 30 mph	24:45 15 mph
2) N. First Street to Lincoln St. to Pitt School Rd. to I-80	6.1 mi.	8:45 42 mph	12:05 30 mph	21:45 17 mph
3) N. First Street to Stratford Ave. to Pitt School Rd. to I-80	6.3 mi.	10:30 36 mph	13:50 27 mph	23:30 16 mph
4) N. First Street to Adams Street to W. A Street to I-80	6.5 mi.	11:30 34 mph	13:50 28 mph	20:30 19 mph
5) N. First Street to Adams Street to Porter Street to Midway Road to I-80	6.6 mi.	10:45 37 mph	10:45 37 mph	10:45 37 mph
6) N. First Street to SR 113 to Midway Road to I-80	7.8 mi.	13:15 35 mph	13:15 35 mph	13:15 35 mph

Notes:

¹ Average travel time between the existing terminus of Dorset Drive and the I-80/Midway Road interchange.

² Traffic on I-80 averaged 60-70 mph during travel time runs.

³ No reductions in travel time (from that observed during weekday p.m. peak hour) assumed on surface streets.

Source: Fehr & Peers, 2005.

Table 4.10-13 indicates that Route 1 (North First Street to I-80) is shorter and quicker than any of the other routes under existing weekday p.m. peak hour conditions. However, as congestion increases and speeds decrease on I-80, several alternative routes provide comparable, if not, shorter travel times. If travel speeds on I-80 averaged 15 mph, then Route 5 (N. First Street to Porter Street to Midway Road to I-80) would be 14 minutes faster than Route 1. However, not all patrons departing Dixon Downs and desiring to travel west on I-80 under such conditions would be aware of this route and its significant travel time savings. Figure 4.10-6 displays the expected distribution of Phase 1 trips under weekday and

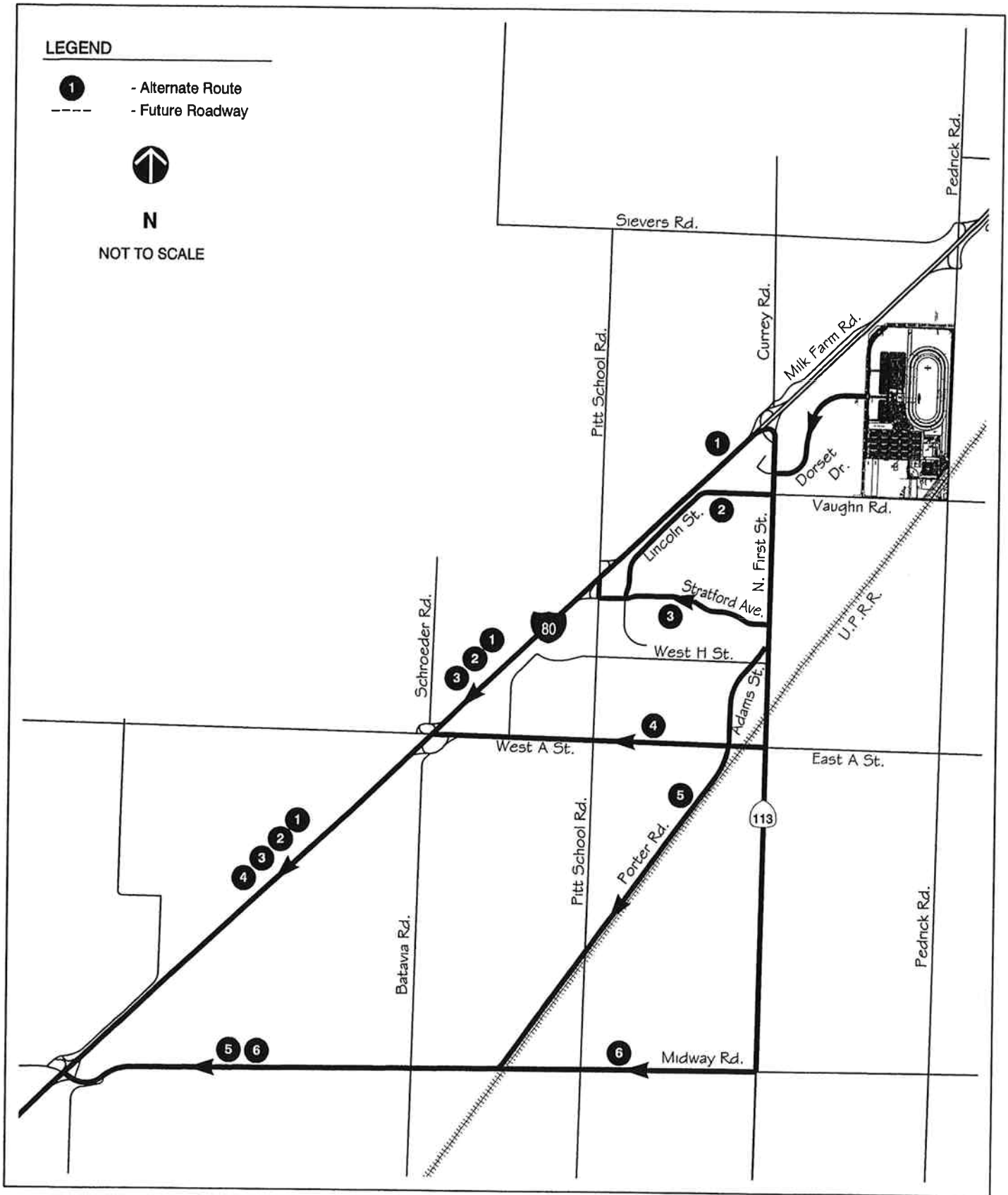
LEGEND

- 1** - Alternate Route
- - Future Roadway



N

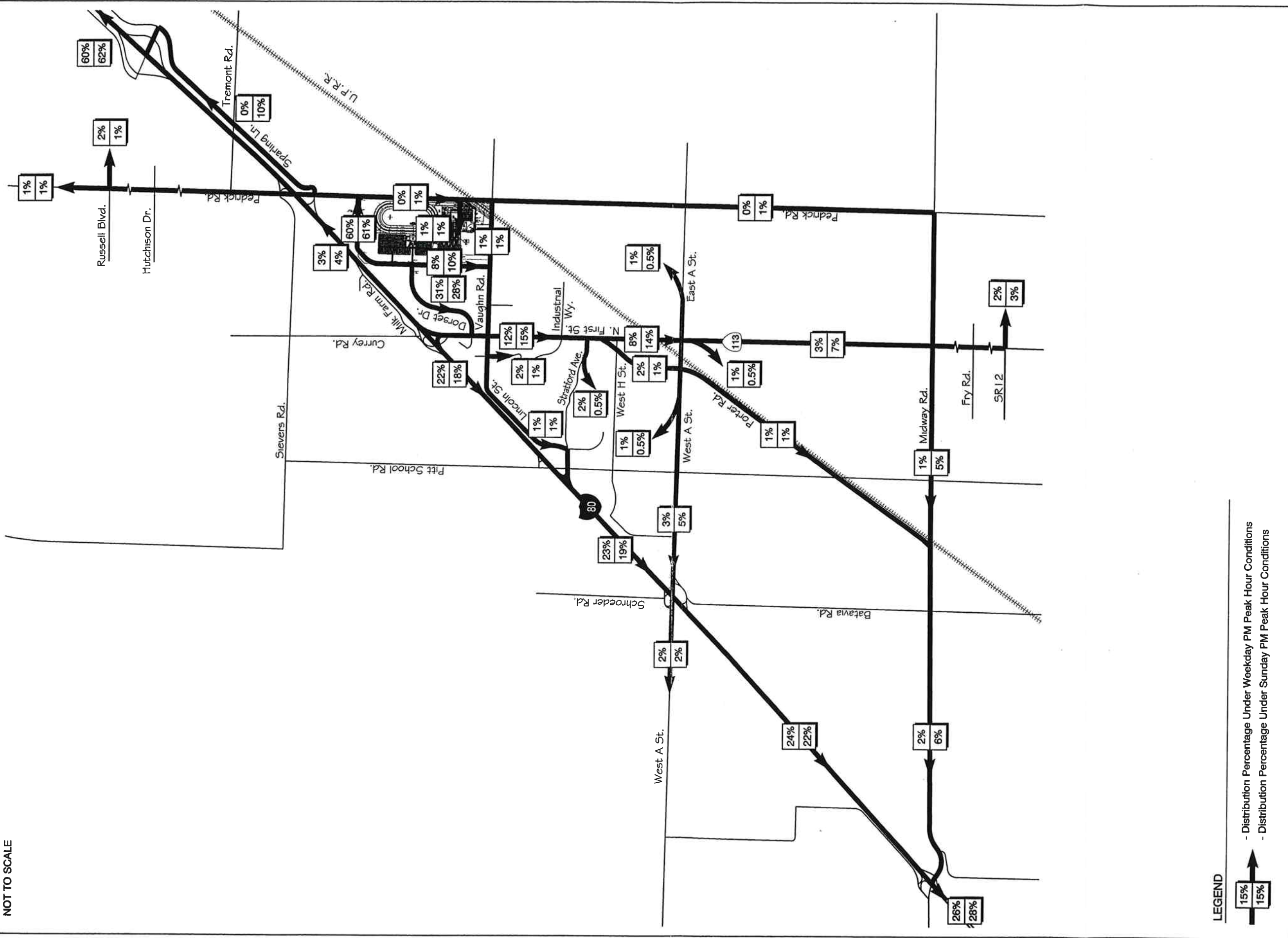
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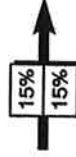


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LEGEND



- Distribution Percentage Under Weekday PM Peak Hour Conditions

- Distribution Percentage Under Sunday PM Peak Hour Conditions

Sunday p.m. peak hour conditions. Figure 4.10-7 displays similar information for Phase 2 trips. The percentages shown in these figures are based on the aforementioned discussions on expected trip distribution and travel times. All assumptions related to the project's trip generation, distribution, and assignment were reviewed and approved by the City prior to their use in the impact analysis.

Analysis Scenarios

Table 4.10-14 summarizes the scenarios analyzed in this section. This table displays the analysis period(s) and study locations evaluated for each scenario.

Year 2015 was selected as the horizon year for analysis of City of Dixon intersections because it represents the approximate 20-year horizon of the City's current General Plan (adopted in 1995) and provides sufficient lead time to assume that all major land developments in and around Dixon (including Phase 2 of Dixon Downs, Milk Farm project, UC Davis West Village Neighborhood, Flying J Truck Stop, Southwest Dixon Specific Plan, Brookfield, and the new high school) are constructed. Year 2025 was the horizon year selected for the analysis of Interstate 80 and its interchanges. This year was selected to provide a cumulative impact analysis based on a 20-year planning horizon.

The regionally significant project analysis (as required by Section 21092.4 of the Public Resources Code) was performed under existing conditions. The regionally significant analysis was not performed for the Tier 2 event scenario due to their infrequent nature, and the fact that such an analysis would likely result in conclusions similar to Sunday p.m. peak hour analysis of a Tier 1 event consisting of a sold-out horseracing event.

None of the future year scenarios includes an analysis of Sunday p.m. peak hour or Saturday "pre- and post- Tier 2 event" peak hours due to the difficulty associated with developing reasonable traffic forecasts for these time periods. As is discussed later, none of the traffic models available for the study area produces traffic forecasts for these time periods. Although such forecasts may be developed by applying a growth rate to the existing counts based on the expected increase in weekday p.m. peak hour or daily traffic, this approach generally works best in areas that are near or at buildout. Such an approach would not work well within the study area because the vast majority of the NQSP has yet to be developed.

Existing Plus Project Conditions

Traffic generated by the various analysis scenarios of the project was assigned to the roadway system in accordance with the trip generation, distribution, and assignment procedures described above. Figures G-1 through G-4 of the separately bound technical appendix display project-only trips at the study intersections.

The project-only trips were added to the existing traffic volumes to yield "existing plus project" conditions for each analysis scenario. Figures G-5 through G-8 display the resulting "existing plus project" volumes at each study intersection for each scenario. Operations were reanalyzed at the study intersections, I-80 mainline segments, and I-80 ramp junctions with the addition of traffic from Phase 1 and Phases 1 and 2. Tables 4.10-15 through 4.10-20 on the following pages summarize the results.

The impacts of Phase 1 and Phases 1 and 2 on the roadways of regional significance were also analyzed. Tables 4.10-21 and 4.10-22 display the results. Ten intersections located on the roadways of regional

Table 4.10-14

Summary of Analysis Scenarios

Scenario	Analysis Periods			Study Locations		
	Weekday PM Peak Hour	Sunday PM Peak Hour	Saturday “Pre- & Post- Tier 2 Event” Peak Hours	Dixon Inter- sections	I-80 and Inter- changes	Regionally Significant Locations
Existing Conditions	√	√	√	√	√	√
Existing Plus Phase 1 – Tier 1 Event (Live Horseracing)	3,740 Attendees	√		√	√	√
	5,100 Attendees		√	√	√	√
	6,800 Attendees		√	√	√	√
Existing Plus Phase 1 – Tier 2 Event	15,000 Attendees		√	√	√	
Existing Plus Phases 1 & 2 – Tier 1 Event (Live Horseracing)	3,740 Attendees	√		√	√	√
	5,100 Attendees		√	√	√	√
	6,800 Attendees		√	√	√	√
Existing Plus Phases 1 & 2 – Tier 2 Event	15,000 Attendees		√	√	√	
Year 2015 With NQSP Buildout	√			√		
Year 2015 With NQSP Buildout and Project Site Undeveloped	√			√		
Year 2015 With NQSP Buildout and Phase 1 - Tier 1 Event (Live Horseracing with 3,740 Attendees)	√			√		
Year 2015 With NQSP Buildout and Phases 1 & 2 - Tier 1 Event (Live Horseracing with 3,740 Attendees)	√			√		
Year 2025 With NQSP Buildout	√				√	
Year 2025 With NQSP Buildout and Project Site Undeveloped	√				√	
Year 2025 With NQSP Buildout and Phase 1 – Tier 1 Event (Live Horseracing with 3,740 Attendees)	√				√	
Year 2025 With NQSP Buildout and Phases 1 & 2 – Tier 1 Event (Live Horseracing with 3,740 Attendees)	√				√	

Note:

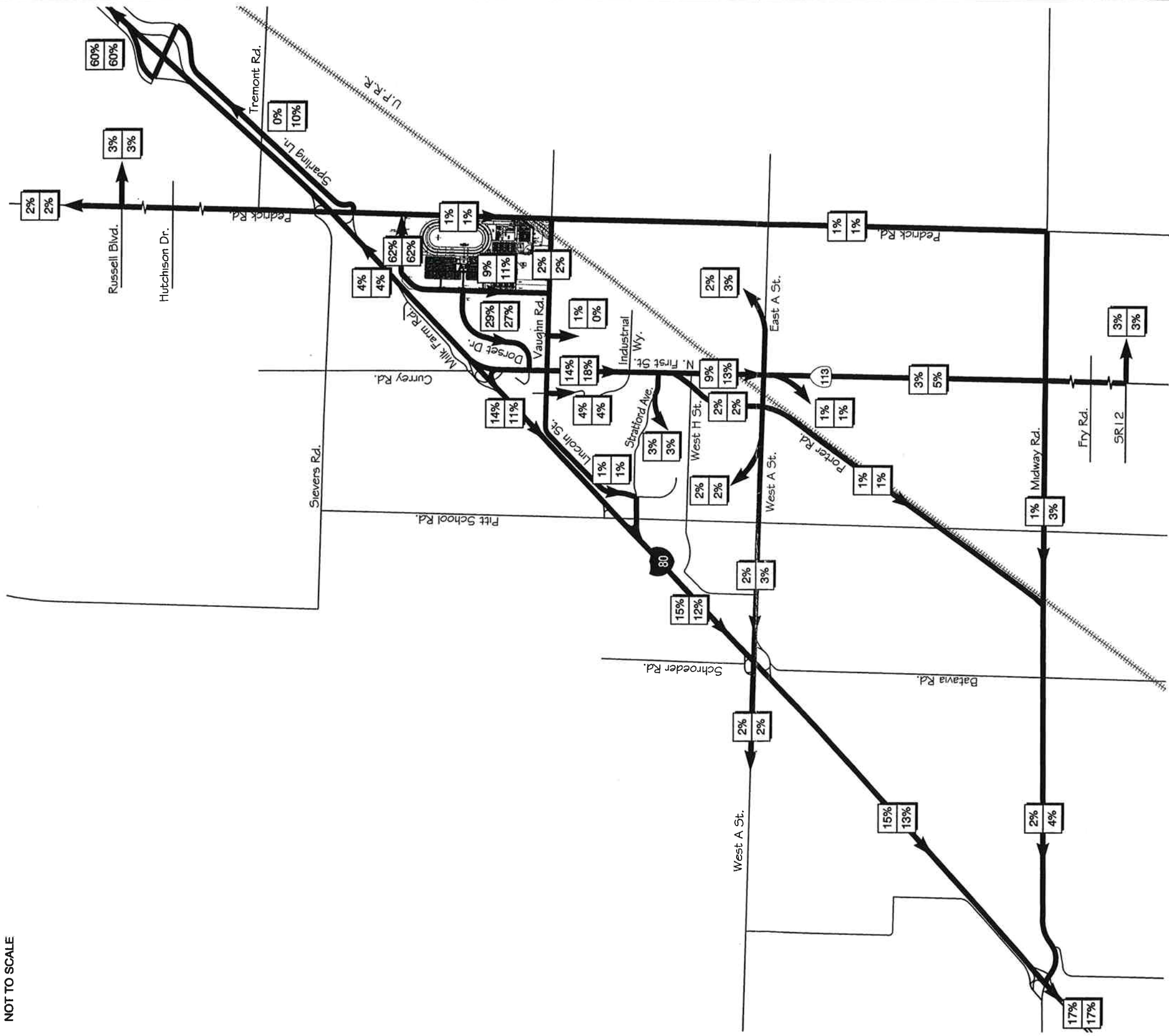
Refer to supporting text for justification of analysis periods and locations selected for study.

Source: Fehr & Peers, 2005.



N

NOT TO SCALE



LEGEND



- Distribution Percentage Under Weekday PM Peak Hour Conditions

- Distribution Percentage Under Sunday PM Peak Hour Conditions

Table 4.10-15

Intersection Levels of Service – Existing Plus Phase 1 Conditions

Intersection		Control	Average Delay ¹ – Level of Service									
			Existing Conditions		Existing + Phase 1 (Tier 1 Live Horseracing Event)			Existing Conditions		Existing + Phase 1 (Tier 2 Event)		
			Weekday PM Pk Hr	Sunday PM Pk Hr	Weekday PM Pk Hr (55% Att.)	Sunday PM Pk Hr (75% Att.)	Sunday PM Pk Hr (100% Att.)	Saturday “Pre” Pk Hr	Saturday “Post” Pk Hr	Saturday “Pre” Pk Hr	Saturday “Post” Pk Hr	Sunday PM Pk Hr
1	N. First Street/ Dorset Drive	Traffic Signal	13.4 – B	19.5 – B	27.6 – C	25.4 – C	28.8 – C	14.9 – B	13.8 – B	24.9 – C	88 – F	54.9 – D
2	Dorset Drive/ Walmart Entry	Traffic Signal	7.8 – A	8.5 – A	9.1 – A	13.1 – B	12.9 – B	9.4 – A	2.3 – A	11.9 – B	16.4 – B	13.5 – B
3	N. First Street/ Vaughn Road	Traffic Signal	14.4 – B	11.3 – B	15.9 – B	14.5 – B	15.7 – B	11.7 – B	10.2 – B	16.3 – B	17.3 – B	17.1 – B
4	Vaughn Road/ Pedrick Road	All-Way Stop	7.6 – A	7.1 – A	7.6 – A	7.3 – A	7.3 – A	7.6 – A	7.3 – A	7.7 – A	7.3 – A	7.4 – A
5	Stratford Avenue/ N. Lincoln Street	All-Way Stop	10.5 – B	9.3 – A	10.6 – B	9.4 – A	9.4 – A	Not Studied				
6	N. First Street/ Industrial Way	Traffic Signal	12.1 – B	5.4 – A	12.8 – B	5.6 – A	5.8 – A	Not Studied				
7	West A Street/ Pitt School Road	All-Way Stop	10.8 – B	9.6 – A	11.4 – B	10.8 – B	11.4 – B	Not Studied				
8	N. First Street/ A Street	Traffic Signal	29.0 – C	27.5 – C	29.6 – C	27.9 – C	29.6 – C	28.6 – C	24.8 – C	31.9 – C	33.6 – C	44.4 – D
15	I -80 WB Ramps/ Pedrick Road	All-Way Stop	9.7 – A	9.5 – A	12.1 – B	12.2 – B	14.2 – B	9.9 – A	9.0 – A	535 – F	9.9 – A	10.1 – B
16	I -80 EB Ramps/ Pedrick Road	All-Way Stop	9.0 – A	8.3 – A	220 – F	230 – F	416 – F	8.6 – A	8.2 – A	420 – F	>999 – F	713 – F
18	I -80 WB Ramps/ Currey	Side-Street Stop	1.0 (13.3)– A (B)	1.5 (11.4)–	1.0 (13.4)– A (B)	1.4 (11.5)–	1.4 (11.6)–	1.2 (11.3)– A (B)	0.9 (11.4)– A (B)	1.1 (11.9)– A (B)	0.9 (11.4)– A (B)	1.5 (11.4)– A (B)

Table 4.10-15

Intersection Levels of Service – Existing Plus Phase 1 Conditions

Intersection		Control	Average Delay ¹ – Level of Service									
			Existing Conditions		Existing + Phase 1 (Tier 1 Live Horseracing Event)			Existing Conditions		Existing + Phase 1 (Tier 2 Event)		
			Weekday PM Pk Hr	Sunday PM Pk Hr	Weekday PM Pk Hr (55% Att.)	Sunday PM Pk Hr (75% Att.)	Sunday PM Pk Hr (100% Att.)	Saturday “Pre” Pk Hr	Saturday “Post” Pk Hr	Saturday “Pre” Pk Hr	Saturday “Post” Pk Hr	Sunday PM Pk Hr
	Road/ N. First St.			A (B)		A (B)	A (B)					
19	I-80 EB Ramps/ N. First Street	Side-Street Stop	2.4 (24.7)– A (C)	2.5 (19.9)– A (C)	4.7 (107)– A (F)	5.2 (105)– A (F)	6.5 (219)– A (F)	2.3 (23.5)– A (C)	2.0 (18.9)– A (C)	1.8 (49.6)– A (E)	13.2(948)– B (F)	9.3 (608) – A (F)
20	I-80 WB Ramps/ Pitt School Road	Side-Street Stop	8.3 (16.0)– A (C)	6.4 (12.6)– A (B)	8.3 (16.3)– A (C)	6.3 (12.8)– A (B)	6.2 (12.8)– A (B)	Not Studied				
21	I-80 EB Ramps/ Pitt School Road	All-Way Stop	17.8 – C	13.2 – B	18.1 – C	13.4 – B	13.5 – B	Not Studied				
26	Vaughn Rd./ Dixon Downs Pkwy.	Side-Street Stop	Did Not Exist		4.1 (9.4)– A (A)	6.3 (9.6)– A (A)	7.1 (10.2)– A (B)	Did Not Exist		4.3 (13.0)– A (B)	7.5(10.6)– A (B)	8.5 (11.4) – A (B)
27	Pedrick Rd./ Dixon Downs Pkwy.	Traffic Signal	Did Not Exist		16.2 – B	8.9 – A	9.4 – A	Did Not Exist		37.0 – D	14.3 – B	21.8 – C

Notes:

1. Average control delay (in seconds per vehicle) of all vehicles at signalized and all-way stop-controlled intersections. At side-street stop-controlled intersections, average control delay reported for entire intersection and side-street movement with greatest delay (shown in parentheses).
- The delay estimates for intersections operating at LOS F are imprecise estimates given limitations in the analysis procedures for oversaturated conditions. They are displayed primarily to illustrate the magnitude of the difference in operations between scenarios.
- Weekday and Sunday PM peak hours occur between 4 and 6 p.m. Saturday pre-Tier 2 event peak hour occurs from 12- 1 p.m. and Saturday post-Tier 2 event peak hour occurs from 5 to 6 p.m..

Source: Fehr & Peers, 2005.

Table 4.10-16

Intersection Levels of Service – Existing Plus Phases 1 & 2 Conditions

Intersection		Control	Average Delay ¹ – Level of Service									
			Existing Conditions		Existing + Phases 1 & 2 (Tier 1 Live Horseracing Event)			Existing Conditions		Existing + Phase 1 & 2 (Tier 2 Event)		
			Weekday PM Pk Hr	Sunday PM Pk Hr	Weekday PM Pk Hr (55% Att.)	Sunday PM Pk Hr (75% Att.)	Sunday PM Pk Hr (100% Att.)	Saturday “Pre” Pk Hr	Saturday “Post” Pk Hr	Saturday “Pre” Pk Hr	Saturday “Post” Pk Hr	Sunday PM Pk Hr
1	N. First Street/ Dorset Drive	Traffic Signal	13.4 – B	19.5 – B	33.7 – C	28.2 – C	38.7 – D	14.9 – B	13.8 – B	46.3 – D	146 – F	89 – F
2	Dorset Drive/ Walmart Entry	Traffic Signal	7.8 – A	8.5 – A	34.3 – C	16.1 – B	18.7 – B	9.4 – A	2.3 – A	43.9 – D	46.7 – D	52.1 – D
3	N. First Street/ Vaughn Road	Traffic Signal	14.4 – B	11.3 – B	20.8 – C	17.5 – B	18.9 – B	11.7 – B	10.2 – B	24.0 – C	22.7 – C	30.5 – C
4	Vaughn Road/ Pedrick Road	All-Way Stop	7.6 – A	7.1 – A	7.7 – A	7.3 – A	7.4 – A	7.6 – A	7.3 – A	7.9 – A	7.4 – A	7.5 – A
5	Stratford Avenue/ N. Lincoln Street	All-Way Stop	10.5 – B	9.3 – A	10.8 – B	9.5 – A	9.5 – A	Not Studied				
6	N. First Street/ Industrial Way	Traffic Signal	12.1 – B	5.4 – A	14.3 – B	6.2 – A	6.7 – A	Not Studied				
7	West A Street/ Pitt School Rd.	All-Way Stop	10.8 – B	9.6 – A	12.0 – B	11.5 – B	12.2 – B	Not Studied				
8	N. First Street/ A Street	Traffic Signal	29.0 – C	27.5 – C	32.6 – C	31.6 – C	37.3 – D	28.6 – C	24.8 – C	39.7 – D	38.1 – D	87 – F
15	I -80 WB Ramps/ Pedrick Road	All-Way Stop	9.7 – A	9.5 – A	288 – F	106 – F	116 – F	9.9 – A	9.0 – A	>999 – F	103 – F	78 – F
16	I -80 EB Ramps/ Pedrick Road	All-Way Stop	9.0 – A	8.3 – A	733 – F	599 – F	787 – F	8.6 – A	8.2 – A	>999 – F	>999 – F	> 999 – F
18	I -80 WB Ramps/ Currey	Side-Street Stop	1.0 (13.3)– A (B)	1.5 (11.4)–	0.9 (13.9)– A (B)	1.4 (11.8)–	1.3 (11.8)– A (B)	1.2(11.3)– A (B)	0.9 (11.4)– A (B)	1.0(12.6) – A (B)	0.8 (11.7) – A (B)	1.4 (11.7) – A (B)

Table 4.10-16

Intersection Levels of Service – Existing Plus Phases 1 & 2 Conditions

Intersection		Control	Average Delay ¹ – Level of Service									
			Existing Conditions		Existing + Phases 1 & 2 (Tier 1 Live Horseracing Event)			Existing Conditions		Existing + Phase 1 & 2 (Tier 2 Event)		
			Weekday PM Pk Hr	Sunday PM Pk Hr	Weekday PM Pk Hr (55% Att.)	Sunday PM Pk Hr (75% Att.)	Sunday PM Pk Hr (100% Att.)	Saturday “Pre” Pk Hr	Saturday “Post” Pk Hr	Saturday “Pre” Pk Hr	Saturday “Post” Pk Hr	Sunday PM Pk Hr
	Road/ N. First St.		A (B)		A (B)							
19	I-80 EB Ramps/ N. First Street	Side-Street Stop	2.4 (24.7)– A (C)	2.5 (19.9)– A (C)	7.0 (489)– A (F)	6.4 (278)– A (F)	8.7 (610)– A (F)	2.3(23.5)– A (C)	2.0 (18.9)– A (C)	5.2(414)–A (F)	>999 (>999) – F (F)	19.8 (>999) – C (F)
20	I-80 WB Ramps/ Pitt School Road	Side-Street Stop	8.3 (16.0)– A (C)	6.4 (12.6)– A (B)	8.3 (16.6)– A (C)	6.2 (12.9)– A (B)	6.2 (13.0)– A (B)	Not Studied				
21	I-80 EB Ramps/ Pitt School Road	All-Way Stop	17.8 – C	13.2 – B	18.5 – C	13.6 – B	13.6 – B	Not Studied				
26	Vaughn Rd./Dixon Downs Pkwy.	Side-Street Stop	Did Not Exist		6.3 (12.9)– A (B)	7.7 (11.3)– A (B)	8.9 (12.3)– A (B)	Did Not Exist		6.4(22.1)–A (C)	13.8(46.3) – B (E)	13.6 (18.5) – B (C)
27	Pedrick Rd./Dixon Downs Pkwy.	Traffic Signal	Did Not Exist		17.2 – B	12.0 – B	26.4 – C	Did Not Exist		397 – F	113 – F	162 – F

- Notes:
- Average control delay (in seconds per vehicle) of all vehicles at signalized and all-way stop-controlled intersections. At side-street stop-controlled intersections, average control delay reported for entire intersection and side-street movement with greatest delay (shown in parentheses).
 - The delay estimates for intersections operating at LOS F are imprecise estimates given limitations in the analysis procedures for oversaturated conditions. They are displayed primarily to illustrate the magnitude of difference in operations between scenarios.
 - Weekday and Sunday PM peak hours occur between 4 and 6 p.m. Saturday pre-Tier 2 event peak hour occurs from 12- 1 p.m. and Saturday post-Tier 2 event peak hour occurs from 5 to 6 p.m..

Source: Fehr & Peers, 2005.

Table 4.10-17

I-80 Freeway Mainline Levels of Service – Existing Plus Phase 1 Conditions

Freeway Mainline Segment	Density – Level of Service									
	Existing Conditions		Existing + Phase 1 (Tier 1 Live Horseracing Event)			Existing Conditions		Existing + Phase 1 (Tier 2 Event)		
	Weekday PM Pk Hr	Sunday PM Pk Hr	Weekday PM Pk Hr (55% Att.)	Sunday PM Pk Hr (75% Att.)	Sunday PM Pk Hr (100% Att.)	Saturday “Pre” Pk Hr	Saturday “Post” Pk Hr	Saturday “Pre” Pk Hr	Saturday “Post” Pk Hr	Sunday PM Pk Hr
I-80 EB between Pitt School Road and N. First Street	22.7 – C	23.0 – C	23.0 – C	23.4 – C	23.5 – C	21.4 – C	24.4 – C	24.6 – C	24.9 – C	23.0 – C
I-80 EB between N. First Street and Pedrick Road	24.3 – C	23.8 – C	24.6 – C	24.3 – C	24.5 – C	23.0 – C	25.5 – C	23.4 – C	26.3 – D	24.7 – C
I-80 EB between Pedrick Road and Kidwell Road	23.9 – C	23.4 – C	30.2 – D	30.7 – D	34.1 – D	22.7 – C	25.2 – C	23.2 – C	>45 – F	41.6 – E
I-80 WB between Currey Road and Pitt School Road	24.0 – C	30.6 – D	26.3 – D	34.8 – D	36.1 – E	28.1 – D	20.2 – C	28.4 – D	25.5 – C	38.2 – E
I-80 WB between Pedrick Road and Currey Road	25.8 – C	31.8 – D	25.8 – C	31.9 – D	31.9 – D	29.1 – D	21.3 – C	30.0 – D	21.5 – C	31.8 – D
I-80 WB between Kidwell Road and Pedrick Road	25.5 – C	31.4 – D	26.5 – D	33.0 – D	33.6 – D	28.9 – D	21.2 – C	44.2 – E	21.4 – C	31.4 – D

Note:
- Weekday and Sunday PM peak hours occur between 4 and 6 p.m. Saturday pre-Tier 2 event peak hour occurs from 12- 1 p.m. and Saturday post-Tier 2 event peak hour occurs from 5 to 6 p.m..
Source: Fehr & Peers, 2005.

Table 4.10-18

I-80 Freeway Mainline Levels of Service – Existing Plus Phases 1 & 2 Conditions

Freeway Mainline Segment	Density – Level of Service									
	Existing Conditions		Existing + Phases 1 & 2 (Tier 1 Live Horseracing Event)			Existing Conditions		Existing + Phase 1 & 2 (Tier 2 Event)		
	Weekday PM Pk Hr	Sunday PM Pk Hr	Weekday PM Pk Hr (55% Att.)	Sunday PM Pk Hr (75% Att.)	Sunday PM Pk Hr (100% Att.)	Saturday “Pre” Pk Hr	Saturday “Post” Pk Hr	Saturday “Pre” Pk Hr	Saturday “Post” Pk Hr	Sunday PM Pk Hr
I-80 EB between Pitt School Road and N. First Street	22.7 – C	23.0 – C	23.9 – C	23.8 – C	23.8 – C	21.4 – C	24.4 – C	26.4 – D	25.6 – C	23.6 – C
I-80 EB between N. First Street and Pedrick Road	24.3 – C	23.8 – C	24.7 – C	24.4 – C	24.6 – C	23.0 – C	25.5 – C	23.9 – C	27.2 – D	25.0 – C
I-80 EB between Pedrick Road and Kidwell Road	23.9 – C	23.4 – C	37.9 – E	36.6 – E	40.9 – E	22.7 – C	25.2 – C	29.5 – D	>45 – F	>45 – F
I-80 WB between Currey Road and Pitt School Road	24.0 – C	30.6 – D	27.4 – D	36.0 – E	37.4 – E	28.1 – D	20.2 – C	30.2 – D	26.8 – D	40.4 – E
I-80 WB between Pedrick Road and Currey Road	25.8 – C	31.8 – D	26.0 – C	32.0 – D	32.0 – D	29.1 – D	21.3 – C	30.6 – D	21.8 – C	32.3 – D
I-80 WB between Kidwell Road and Pedrick Road	25.5 – C	31.4 – D	31.5 – D	36.4 – E	36.7 – E	28.9 – D	21.2 – C	> 45 – F	24.4 – C	35.6 – E

Note:
 - Weekday and Sunday PM peak hours occur between 4 and 6 p.m. Saturday pre-Tier 2 event peak hour occurs from 12- 1 p.m. and Saturday post-Tier 2 event peak hour occurs from 5 to 6 p.m..
 Source: Fehr & Peers, 2005.

Table 4.10-19

I-80 Ramp Junction Levels of Service – Existing Plus Phase 1 Conditions

Freeway Ramp Junctions	Density – Level of Service									
	Existing Conditions		Existing + Phase 1 (Tier 1 Live Horseracing Event)			Existing Conditions		Existing + Phase 1 (Tier 2 Event)		
	Weekday PM Pk Hr	Sunday PM Pk Hr	Weekday PM Pk Hr (55% Att.)	Sunday PM Pk Hr (75% Att.)	Sunday PM Pk Hr (100% Att.)	Saturday “Pre” Pk Hr	Saturday “Post” Pk Hr	Saturday “Pre” Pk Hr	Saturday “Post” Pk Hr	Sunday PM Pk Hr
N. First Street/I-80 EB Off-Ramp	27.5 – C	27.8 – C	27.9 – C	28.2 – D	28.4 – D	26.7 – C	29.4 – D	30.1 – D	29.4 – D	27.8 – D
N. First Street/I-80 EB On-Ramp	25.0 – C	24.0 – C	25.4 – C	24.7 – C	24.9 – C	24.3 – C	26.2 – C	24.3 – C	27.2 – C	25.3 – C
Currey Road/I-80 WB Off-Ramp	31.2 – D	34.2 – D	31.2 – D	34.3 – D	34.3 – D	33.4 – D	27.2 – C	33.8 – D	27.2 – C	34.3 – D
Currey Rd./I-80 WB Loop On-Ramp	24.2 – C	29.1 – D	26.9 – C	32.3 – D	33.4 – D	27.8 – C	20.8 – C	27.8 – C	27.9 – C	35.3 – E
Currey Road/I-80 WB On-Ramp	23.3 – C	28.4 – D	25.1 – C	30.3 – D	31.0 – D	Not Studied				
Pedrick Road/I-80 EB Off-Ramp	29.2 – D	28.7 – D	29.4 – D	29.1 – D	29.2 – D	28.3 – D	30.5 – D	28.3 – D	30.7 – D	29.4 – D
Pedrick Road/I-80 EB On-Ramp	23.9 – C	23.3 – C	31.1 – D	31.7 – D	34.6 – D	23.1 – C	25.3 – C	23.1 – C	> 43 – F	> 43 – F
Pedrick Road/I-80 WB Off-Ramp	30.3 – D	33.9 – D	31.3 – D	34.9 – D	35.2 – E	33.0 – D	26.7 – C	> 43 – F	26.7 – C	35.7 – E
Pedrick Road/I-80 WB On-Ramp	25.8 – C	29.8 – D	25.8 – C	29.9 – D	29.9 – D	28.8 – D	21.9 – C	29.1 – D	21.9 – C	29.8 – D

Note:
- Weekday and Sunday PM peak hours occur between 4 and 6 p.m. Saturday pre-Tier 2 event peak hour occurs from 12- 1 p.m. and Saturday post-Tier 2 event peak hour occurs from 5 to 6 p.m..
Source: Fehr & Peers, 2005.

Table 4.10-20

I-80 Ramp Junction Levels of Service – Existing Plus Phases 1 & 2 Conditions

Freeway Ramp Junctions	Density – Level of Service									
	Existing Conditions		Existing + Phases 1 & 2 (Tier 1 Live Horseracing Event)			Existing Conditions		Existing + Phase 1&2 (Tier 2 Event)		
	Weekday PM Pk Hr	Sunday PM Pk Hr	Weekday PM Pk Hr (55% Att.)	Sunday PM Pk Hr (75% Att.)	Sunday PM Pk Hr (100% Att.)	Saturday “Pre” Pk Hr	Saturday “Post” Pk Hr	Saturday “Pre” Pk Hr	Saturday “Post” Pk Hr	Sunday PM Pk Hr
N. First Street/I-80 EB Off-Ramp	27.5 – C	27.8 – C	29.1 – D	28.8 – D	28.9 – D	26.7 – C	29.4 – D	32.3 – D	30.3 – D	28.5 – D
N. First Street/I-80 EB On-Ramp	25.0 – C	24.0 – C	25.8 – C	25.0 – C	25.2 – C	24.3 – C	26.2 – C	24.9 – C	27.8 – C	25.8 – C
Currey Road/I-80 WB Off-Ramp	31.2 – D	34.2 – D	31.4 – D	34.4 – D	34.4 – D	33.4 – D	27.2 – C	34.2 – D	27.6 – C	34.6 – D
Currey Rd./I-80 WB Loop On-Ramp	24.2 – C	29.1 – D	28.4 – D	33.4 – D	34.3 – D	27.8 – C	20.8 – C	29.5 – D	29.5 – D	36.6 – E
Currey Road/I-80 WB On-Ramp	23.3 – C	28.4 – D	25.9 – C	30.9 – D	31.5 – D	Not Studied				
Pedrick Road/I-80 EB Off-Ramp	29.2 – D	28.7 – D	29.6 – D	29.2 – D	29.3 – D	28.3 – D	30.5 – D	28.8 – D	31.4 – D	29.7 – D
Pedrick Road/I-80 EB On-Ramp	23.9 – C	23.3 – C	37.1 – E	36.5 – E	39.1 – E	23.1 – C	25.3 – C	30.7 – D	> 43 – F	> 43 – F
Pedrick Road/I-80 WB Off-Ramp	30.3 – D	33.9 – D	36.0 – E	37.0 – E	36.9 – E	33.0 – D	26.7 – C	> 43 – F	30.5 – D	36.5 – E
Pedrick Road/I-80 WB On-Ramp	25.8 – C	29.8 – D	26.2 – C	30.2 – D	30.6 – D	28.8 – D	21.9 – C	29.9 – D	22.5 – C	30.5 – D

Note:
 - Weekday and Sunday PM peak hours occur between 4 and 6 p.m. Saturday pre-Tier 2 event peak hour occurs from 12- 1 p.m. and Saturday post-Tier 2 event peak hour occurs from 5 to 6 p.m..
 Source: Fehr & Peers, 2005.

Table 4.10-21

Regionally Significant Roadway Segment Analysis – Existing Plus Phase 1 (Tier 1 Event) Conditions

Roadway	Segment	Functional Class ¹	Number of Lanes (Both Dir.)	Peak Hour Volume (Both Dir.) – Level of Service				
				Existing Conditions		Existing + Phase 1 (Tier 1 Live Horseracing Event)		
				Weekday PM Peak Hour	Sunday PM Peak Hour	Weekday PM Peak Hour (55% Att.)	Sunday PM Peak Hour (75% Att.)	Sunday PM Peak Hour (100% Att.)
I-80	I-505 to Leisure Town Road ²	Freeway	8	8,520 – C	9,320 – D	9,000 – C	10,030 – D	10,270 – D
	Midway Road to West A Street ²	Freeway	6	8,800 – D	9,960 – E	9,250 – E	10,520 – F	10,700 – F
	Kidwell Road to SR 113 ²	Freeway	8	8,930 – C	9,820 – D	10,050 – D	11,400 – D	11,930 – E
	Old Davis Road to Richards Blvd. ²	Freeway	8	9,190 – D	9,590 – D	10,030 – D	10,780 – D	11,170 – D
	Mace Boulevard to Yolo Causeway ³	Freeway	6	8,920 – E	9,380 – E	9,480 – E	10,170 – E	10,430 – E
SR 113	I-80 to Hutchison Drive ^{2,3}	Freeway	4	3,970 – C	2,550 – B	4,190 – C	2,870 – B	2,970 – B
	Russell Blvd. to West Covell Blvd. ³	Freeway	4	3,280 – B	1,990 – A	3,450 – C	2,230 – B	2,310 – B
	West A Street to Midway Road ^{2,4}	Rural Minor Arterial	2	470 – C	330 – C	530 – C	510 – C	570 – C
	Midway Road to SR 12 ²	Rural Minor Arterial	2	270 – C	250 – C	310 – C	330 – C	350 – C
I-505	I-80 to Vaca Valley Parkway ²	Freeway	4	2,390 – B	2,330 – B	2,460 – B	2,440 – B	2,470 – B
	Vaca Valley Parkway to SR 128 ²	Freeway	4	1,350 – A	1,870 – A	1,400 – A	1,940 – A	1,970 – A
Pedrick Road	Russell Boulevard to Hutchison Dr. ³	Rural Minor Arterial	2	430 – C	300 – C	450 – C	330 – C	330 – C
	Hutchison Drive to I-80 ^{2,3}	Rural Minor Arterial	2	360 – C	300 – C	390 – C	350 – C	360 – C

Table 4.10-21

Regionally Significant Roadway Segment Analysis – Existing Plus Phase 1 (Tier 1 Event) Conditions

Roadway	Segment	Functional Class ¹	Number of Lanes (Both Dir.)	Peak Hour Volume (Both Dir.) – Level of Service				
				Existing Conditions		Existing + Phase 1 (Tier 1 Live Horseracing Event)		
				Weekday PM Peak Hour	Sunday PM Peak Hour	Weekday PM Peak Hour (55% Att.)	Sunday PM Peak Hour (75% Att.)	Sunday PM Peak Hour (100% Att.)
Pedrick Road	East A Street to Midway Road ²	Rural Minor Arterial	2	80 – C	50 – C	80 – C	80 – C	90 – C
Dixon Avenue West	I-80 to Allendale Road ²	Rural Minor Arterial	2	170 – C	160 – C	210 – C	210 – C	230 – C
Midway Road	I-80 to Batavia Road ²	Rural Minor Arterial	2	330 – C	180 – C	370 – C	330 – C	380 – C
	Pitt School Road to SR 113 ²	Rural Minor Arterial	2	160 – C	100 – C	180 – C	230 – C	270 – C
	SR 113 to Pedrick Road ²	Rural Minor Arterial	2	100 – C	70 – C	100 – C	100 – C	110 – C
West A Street	I-80 to Pitt School Road ⁴	Urban Minor Arterial	2	680 – C	620 – C	740 – C	750 – C	790 – C
Porter Road	Midway Road to West A Street ^{2,4}	Collector	2	180 – C	110 – C	200 – C	140 – C	150 – C
Russell Boulevard	Pedrick Road to Lake Boulevard ^{3,5}	Rural Minor Arterial	2	220 – C	200 – C	260 – C	230 – C	240 – C
Hutchison Drive	Pedrick Road to Lake Boulevard ³	Rural Minor Arterial	2	180 – C	60 – C	180 – C	60 – C	60 – C

Notes:

¹ Functional classification obtained from field observations and the *Solano Comprehensive Transportation Plan* (2002).

² Located in Solano County (unincorporated)

³ Located in Yolo County (unincorporated)

⁴ Located in Dixon

⁵ Located in Davis

Source: Fehr & Peers, 2005.

Table 4.10-22

Regionally Significant Roadway Segment Analysis – Existing Plus Phases 1 & 2 (Tier 1 Event) Conditions

Road-way	Segment	Functional Class ¹	Number of Lanes (Both Dir.)	Peak Hour Volume (Both Dir.) – Level of Service				
				Existing Conditions		Existing + Phases 1 & 2 (Tier 1 Live Horseracing Event)		
				Weekday PM Peak Hour	Sunday PM Peak Hour	Weekday PM Peak Hour (55% Att.)	Sunday PM Peak Hour (75% Att.)	Sunday PM Peak Hour (100% Att.)
I-80	I-505 to Leisure Town Road ²	Freeway	8	8,520 – C	9,320 – D	9,420 – D	10,330 – D	10,530 – D
	Midway Road to West A Street ²	Freeway	6	8,800 – D	9,960 – E	9,610 – E	10,750 – F	10,900 – F
	Kidwell Road to SR 113 ²	Freeway	8	8,930 – C	9,820 – D	11,530 – D	12,550 – E	12,980 – E
	Old Davis Road to Richards Blvd. ²	Freeway	8	9,190 – D	9,590 – D	11,140 – D	11,640 – E	11,960 – E
	Mace Boulevard to Yolo Causeway ³	Freeway	6	8,920 – E	9,380 – E	10,220 – E	10,750 – F	10,960 – F
SR 113	I-80 to Hutchison Drive ^{2,3}	Freeway	4	3,970 – C	2,550 – B	4,490 – C	3,100 – B	3,180 – B
	Russell Blvd. to West Covell Blvd. ³	Freeway	4	3,280 – B	1,990 – A	3,670 – C	2,400 – B	2,460 – B
	West A Street to Midway Road ^{2,4}	Rural Minor Arterial	2	470 – C	330 – C	640 – C	630 – C	680 – D
	Midway Road to SR 12 ²	Rural Minor Arterial	2	270 – C	250 – C	380 – C	380 – C	410 – C
I-505	I-80 to Vaca Valley Parkway ²	Freeway	4	2,390 – B	2,330 – B	2,520 – B	2,480 – B	2,510 – B
	Vaca Valley Parkway to SR 128 ²	Freeway	4	1,350 – A	1,870 – A	1,440 – A	1,970 – A	1,990 – A
Pedrick Road	Russell Boulevard to Hutchison Dr. ³	Rural Minor Arterial	2	430 – C	300 – C	610 – C	450 – C	470 – C
	Hutchison Drive to I-80 ^{2,3}	Rural Minor Arterial	2	360 – C	300 – C	540 – C	450 – C	470 – C

Table 4.10-22

Regionally Significant Roadway Segment Analysis – Existing Plus Phases 1 & 2 (Tier 1 Event) Conditions

Road-way	Segment	Functional Class ¹	Number of Lanes (Both Dir.)	Peak Hour Volume (Both Dir.) – Level of Service				
				Existing Conditions		Existing + Phases 1 & 2 (Tier 1 Live Horseracing Event)		
				Weekday PM Peak Hour	Sunday PM Peak Hour	Weekday PM Peak Hour (55% Att.)	Sunday PM Peak Hour (75% Att.)	Sunday PM Peak Hour (100% Att.)
Pedrick Road	East A Street to Midway Road ²	Rural Minor Arterial	2	80 – C	50 – C	110 – C	90 – C	100 – C
Dixon Avenue West	I-80 to Allendale Road ²	Rural Minor Arterial	2	170 – C	160 – C	240 – C	240 – C	270 – C
Midway Road	I-80 to Batavia Road ²	Rural Minor Arterial	2	330 – C	180 – C	420 – C	400 – C	450 – C
	Pitt School Road to SR 113 ²	Rural Minor Arterial	2	160 – C	100 – C	200 – C	280 – C	315 – C
	SR 113 to Pedrick Road ²	Rural Minor Arterial	2	100 – C	70 – C	130 – C	110 – C	120 – C
West A Street	I-80 to Pitt School Road ⁴	Urban Minor Arterial	2	680 – C	620 – C	780 – C	800 – C	840 – D
Porter Road	Midway Road to West A Street ^{2,4}	Collector	2	180 – A	110 – A	220 – C	160 – C	190 – C
Russell Boulevard	Pedrick Road to Lake Boulevard ^{3,5}	Rural Minor Arterial	2	220 – C	200 – C	330 – C	270 – C	290 – C
Hutchison Drive	Pedrick Road to Lake Boulevard ³	Rural Minor Arterial	2	180 – C	60 – C	180 – C	60 – C	60 – C

Notes:
¹ Functional classification obtained from field observations and the *Solano Comprehensive Transportation Plan* (2002).
² Located in Solano County (unincorporated)
³ Located in Yolo County (unincorporated)
⁴ Located in Dixon
⁵ Located in Davis
 Source: Fehr & Peers, 2005.

significance were evaluated to determine whether the peak hour traffic volume signal warrant would be satisfied with Phase 1 or Phases 1 and 2. The results indicate that traffic volumes at the SR 113/SR 12 intersection would meet the peak hour volume warrant for a traffic signal with the addition of Phase 1 traffic. No other intersections satisfy this warrant with the addition of project traffic. All technical calculations for the “existing plus Phase 1” analyses can be found in the separately bound technical appendices, in Appendix 3. Appendix 4 includes all technical calculations for “existing plus Phases 1 and 2” conditions.

Year 2015 Conditions (Cumulative)

Traffic operations were analyzed at the study intersections within the City of Dixon under Year 2015 conditions. Traffic forecasts were developed for weekday p.m. peak hour conditions for the following land use scenarios:

- Buildout of the NQSP area;
- Buildout of the NQSP area with the exception of the project site, for which no development is assumed;
- Buildout of the NQSP area with Phase 1 (i.e., live horseracing event with 55 percent attendance); and
- Buildout of the NQSP area with Phases 1 and 2.

Traffic forecasts were developed using the City of Dixon Travel Demand Model. This model produces traffic forecasts for Year 2015 and 2025 conditions based on anticipated land use absorption and planned roadway improvements. All Year 2015 analysis scenarios assume buildout of the residential component of the City in accordance with the current General Plan and 2015 market levels of non-residential land absorption (with the exception of the NQSP which was assumed to be fully developed). The non-residential uses are not expected to be fully builtout until well beyond 2015.

All Year 2015 and 2025 analyses assume development of the Milk Farm site (based on the most recent project application submitted to the City) and the Flying J properties. Other pending and approved projects within the City (e.g., Valley Glen, Southwest Dixon Specific Plan, Brookfield, new high school) are also included in the cumulative analysis scenarios.

The first two scenarios listed above assume the circulation system from the NQSP. The last two scenarios assume the modified circulation system proposed as part of Dixon Downs. One major difference between the two circulation systems is that Dorset Drive (known as Mistler Road in the NQSP) is extended through the project site to Pedrick Road under the NQSP circulation plan. Another important difference is the location of the north-south arterial (then known as Professional Drive) in the NQSP circulation plan. Under the current proposal, it would be constructed a considerable distance west of the Professional Drive alignment and would be extended to Vaughn Road.

The City's *Five-Year Capital Improvement Program – CIP* (Dixon, March 2004) requires new development to pay for certain City-wide infrastructure improvements. For the next five years, the CIP has allocated approximately \$64 million in improvements to wastewater, storm, water, fire, police, administrative, recreation, public works, and transportation facilities and services. Little or no funding has been

allocated for roadway improvements within and surrounding the NQSP. Buildout of the NQSP roadway system was nevertheless assumed because it can be reasonably assumed that the City would condition individual projects to construct the necessary improvements as development occurs.

Development of the Proposed Project would replace a significant amount of development zoned for a mixture of light industrial, professional/administrative office, and community commercial uses within the NQSP. Using floor-to-area ratios established in the NQSP, the Proposed Project is expected to replace approximately 1,932,000 square feet of light industrial, 503,000 square feet of professional/administrative office, and 23,000 square feet of community commercial. These uses are estimated to generate a combined 23,700 trips per day based on trip rates from the City of Dixon Travel Demand Model. These uses would generate approximately 2,400 trips during the weekday p.m. peak hour.

Phase 1 (Tier 1 event) of the project is expected to generate 1,870 weekday p.m. peak hour trips and Phases 1 and 2 (Tier 1 event) is expected to generate 4,330 weekday p.m. peak hour trips. Thus, Phase 1 of the project would generate 22 percent less traffic than the existing zoning, while Phases 1 and 2 would generate 80 percent more traffic than the existing zoning. It should be noted that the percentage of trips that are inbound versus outbound as well as the directionality of trips are considerably different between the proposed project and the existing zoning. These differences help explain why certain facilities may operate better or worse than expected based solely on a comparison of trips generated.

The widening of I-80 to eight lanes through the study area was not assumed by 2015 given the budgetary constraints associated with construction. The 2004 State Transportation Improvement Program (STIP) allocated \$9 million for right-of-way acquisition and engineering, but nothing for construction. The widening is denoted in the *2001 Regional Transportation Plan* (Metropolitan Transportation Commission) as a partially funded improvement. Due to the lack of an identified (full) funding source, the widening of I-80 to eight lanes through the study area was not assumed for the Year 2015 and 2025 scenarios.

The *I-80/I-680/I-780 Major Investment and Corridor Study* (Korve Engineering, 2004) evaluated the widening of I-80 to four lanes in each direction between Meridian Road and Kidwell Road from cost, environmental, and prioritization perspectives. It was included as a recommended long-term project (12th highest priority long-term project overall). However, 25 mid-term projects, which would likely be implemented prior to the long-term projects, were also identified. Thus, there are quite a few projects in the area competing for the limited funds that are available.

All Year 2015 scenarios assume completion of the two-lane connector road between Pedrick Road and Vaughn Road in the southeastern quadrant of the Specific Plan area. However, the grade-separation of Pedrick Road and the UPRR tracks (as shown in the City's General Plan) was not assumed given the lack of an identified funding source. The Vaughn Road/Pedrick Road intersection was assumed to remain in its present condition operating with all-way stop-control.

Year 2015 traffic forecasts were developed for the weekday p.m. peak hour by adding 79 percent of the increase in traffic between the Year 2001 and 2015 models to the existing (2004) traffic volumes. It was necessary to add only 79 percent of the increase because 3 of the 14 horizon years (21 percent) have already elapsed.

Figures G-9 through G-12 in the technical appendix, display the Year 2015 p.m. peak hour traffic forecasts for the four scenarios. These figures also display the assumed lane configurations at each intersection. Traffic forecasts for the scenarios involving Phase 1 and Phases 1 and 2 of Dixon Downs

were developed through an assignment of project trips (in accordance with the project's expected trip generation, distribution, and assignment characteristics) to Year 2015 background traffic.

Table 4.10-23 displays the resulting intersection operations for each scenario (refer to Appendix 4 of separately bound technical appendix for technical calculations). This table indicates that most of the study intersections are expected to operate at LOS D or worse during the weekday p.m. peak hour. The results in this table are similar to the findings in the *Northeast Quadrant Specific Plan Draft EIR*, which identified LOS E or F operations at selected intersections on North First Street, Pedrick Road, and Professional Drive. Please refer to page 4.10-8, Analysis Methodologies, for an explanation of stop sign controlled intersections.

Table 4.10-23

Weekday PM Peak Hour Intersection Levels of Service – Year 2015 Conditions

Intersection		Control	Average Delay ¹ – Level of Service			
			NQSP Buildout	NQSP Buildout & No Development of Project Site	NQSP Buildout With Phase 1 of Dixon Downs	NQSP Buildout With Phases 1 and 2 of Dixon Downs
1	N. First Street/ Dorset Drive	Traffic Signal	420 – F	347 – F	444 – F	534 – F
2	Dorset Drive/ Walmart Entry	Traffic Signal	181 – F	126 – F	171 – F	275 – F
3	N. First Street/ Vaughn Road	Traffic Signal	130 – F	117 – F	149 – F	196 – F
4	Vaughn Road/ Pedrick Road	All-Way Stop	16.8 – C	14.3 – B	14.2 – B	15.3 – C
5	Stratford Avenue/ N. Lincoln Street	All-Way Stop	13.1 – B	12.7 – B	12.9 – B	13.2 – B
6	N. First Street/ Industrial Way	Traffic Signal	42.0 – D	36.7 – D	46.6 – D	57.5 – E
7	West A Street/ Pitt School Rd.	Traffic Signal	37.2 – D	38.3 – D	38.6 – D	40.1 – D
8	N. First Street/ West A Street	Traffic Signal	70.3 – E	66.4 – E	88 – F	103 – F
26	Vaughn Rd./Dixon Downs Pkwy.	Side-Street Stop	Does not exist		1.5 (27.3) – A (D)	3.7 (49.6) – A (E)
27	Pedrick Rd./Dixon Downs Pkwy.	Traffic Signal	Does not exist		457 – F	844 – F

Note:

¹ Average control delay (in seconds per vehicle) of all vehicles at signalized and all-way stop-controlled intersections. At side-street stop-controlled intersections, average control delay reported for entire intersection and side-street movement with greatest delay (shown in parentheses).

The delay estimates for intersections operating at LOS F are imprecise given limitations in the analysis procedures for oversaturated conditions. They are displayed primarily to illustrate the magnitude of the difference in operations between scenarios.

Source: Fehr & Peers, 2005.

Year 2025 Conditions (Cumulative)

Traffic operations were evaluated on the I-80 mainline, interchange ramp junctions, and ramp terminal intersections under Year 2025 conditions.

I-80 Mainline and Ramp Junctions

According to data from the 1984 and 2003 editions of *Traffic Volumes on California State Highways* (Caltrans), peak hour traffic on I-80 directly east of Pedrick Road increased by an average of two percent per year over this 19-year period. If this (compound) growth rate were to continue through 2025, then the Year 2025 forecasts would be approximately 52 percent greater than current volumes.

The Year 2025 forecasts from the City of Dixon Travel Demand Model for I-80 directly east of Pedrick Road reveal a growth rate of about 3.5 percent per year. This rate appears reasonable given the planned development of the Southwest and Northeast Quadrant Specific Plans and redevelopment of the Milk Farm site, all of which would add traffic to I-80. Buildout of the NQSP alone is estimated to generate nearly 10,000 external peak hour trips according to the *City of Dixon Northeast Quadrant Specific Plan Draft EIR* (1994).

If the less aggressive two percent per year growth rate is assumed (based on the historical growth rate between 1984 and 2003), then the segment of I-80 east of Pedrick Road would carry approximately 7,030 vehicles in the westbound direction and 6,500 vehicles in the eastbound direction during the weekday p.m. peak hour in 2025. Due to the aforementioned lack of identified funding to widen I-80, it is assumed to remain six lanes in 2025. The *Highway Capacity Manual* indicates that a mixed-use freeway lane has an ideal capacity of 2,200 to 2,400 passenger cars per hour per lane depending on the free-flow speed. Assuming a practical capacity of 2,200 vehicles per hour per lane after accounting for adjustments (lateral clearance, heavy vehicles, driver population, etc.), each direction of I-80 would have a capacity of 6,600 vehicles per hour. Thus, the westbound direction of I-80 would be overcapacity and the eastbound direction would be at capacity. Both directions would be overcapacity if the growth estimates from the City of Dixon Travel Demand Model were used.

Since the mainline segments of I-80 are expected to be at or over-capacity (i.e., LOS F) by 2025, the interchange ramp merge and diverge areas would also operate at LOS F during the p.m. peak hour.

I-80 Interchange Ramp Terminal Intersections

Year 2025 traffic forecasts were developed for the ramp terminal intersections at the I-80/Pedrick Road, I-80/North First Street/Currey Road, and I-80/Pitt School Road interchanges for the weekday p.m. peak hour for the following land use scenarios:

- Buildout of the NQSP area;
- Buildout of the NQSP area with the exception of the project site, for which no development is assumed;
- Buildout of the NQSP area with Phase 1 (Tier 1 event with 55 percent attendance); and
- Buildout of the NQSP area with Phases 1 and 2 (Tier 1 event with 55 percent attendance).

Traffic forecasts were developed using the City of Dixon Travel Demand Model. Year 2025 traffic forecasts were developed for the weekday p.m. peak hour by adding 88 percent of the increase in traffic between the Year 2001 and 2025 models to the existing (2004) traffic volumes (12 percent of the increase predicted in 2001 has already occurred). Figures A-13 through A-16 display the Year 2025 p.m. peak hour traffic forecasts for the four scenarios.

The ramp terminal intersections at the I-80/Pedrick Road, I-80/North First Street/Currey Road, and I-80/Pitt School Road interchanges are expected to operate at LOS F during the p.m. peak hour under Year 2025 conditions for each of the above scenarios (refer to Appendix 5 of the separately bound technical appendix for technical calculations). As shown in the Appendix under 2025 conditions there would be a LOS F.

This is consistent with the findings of the *City of Dixon Northeast Quadrant Specific Plan Draft EIR* (1994), which identified the need to improve the I-80/North First Street and I-80/Pedrick Road interchanges to accommodate buildout of the NQSP. Because funding sources have not been identified for constructing improvements to any of these interchanges (very limited funding is currently provided through the City's CIP), no improvements were assumed.

Evaluation of Tier 3 Event

Tier 3 events would be major, one-of-a-kind type events, which would occur very infrequently. These events would be attended by more than 15,000 people, and occasionally by as many as 50,000 people. The Tier 2 event analyzed in the previous section illustrates the impacts that would occur for a Tier 3 event with attendance in the low end of this range. Significant impacts would occur at intersections within the NQSP area, and on I-80 and at interchanges at North First Street and Pedrick Road.

A Tier 3 event that attracts 50,000 people was evaluated to illustrate the potential impacts that could occur at the upper end of the attendance range. The type of event (e.g., major horserace, concert, religious service, etc.) would dictate its start/end times, traffic arrival/departure patterns, average vehicle occupancy, directionality of trips, potential for busing to/from the site, parking requirements, and other traffic-related characteristics. Average vehicle occupancies (AVO) of 2 to 3 persons per vehicle would typically be expected with the exact AVO depending on the type of event. An AVO of 2.5 persons per vehicle would translate into 20,000 vehicles, which is substantially more vehicles than can be parked on-site. Therefore, an off-site parking location supported by shuttle busses would likely be necessary.

A Tier 3 event at Dixon Downs would have some similarities to the annual NASCAR Nextel Cup race held at Infineon Raceway in Sonoma County. To accommodate spectators to this event (attendance generally exceeds 50,000), the raceway operator offers a "Ride the Bus" program, which features four strategic pick-up/drop-off locations in Sonoma, Solano, Contra Costa, and Marin Counties. Buses also deliver spectators to the site from more remote destinations such as Sacramento. Buses often receive preferential parking and priority ingress and egress over automobiles.

The following is a comparison of likely traffic impacts that would occur if the off-site parking location(s) were situated in close proximity to Dixon Downs or more remote to the site:

- Off-Site Parking in Close Proximity to Dixon Downs – Under this scenario, motorists would park in nearby fields (weather permitting) or parking lots of businesses that are not open at the time of the event. This scenario would overload Pedrick Road and North First Street with

traffic. The I-80/North First Street and I-80/Pedrick Road interchanges would also be overburdened. Given the magnitude of traffic associated with a Tier 3 event with 50,000 people, this type of parking management plan would result in multiple hours of severe congestion before and after the event.

- Off-Site Parking in Remote Locations – Under this scenario, motorists would be encouraged to park in designated sites to the east and west of the project, perhaps at locations with easy access to I-80. They would then be shuttled to and from Dixon Downs. This parking arrangement would reduce the magnitude of impacts on Dixon streets. However, since many attendees would still choose to park at the site, the roadway system surrounding Dixon Downs would be congested, but for fewer hours than if parking is provided in close proximity to the site.

Evaluation of Project Access

An evaluation of access to the project site was conducted for existing and Year 2015 conditions with Phase 1 only and Phases 1 and 2. The evaluation focuses on Dixon Downs Parkway because all access (with the exception of a non-public entrance to Phase 1 from Pedrick Road) is provided from this street. Access plans have been developed and analyzed for Phases 1 and 2 with the assumption that the project applicant would construct these improvements. Mitigation measures are recommended to ensure that Dixon Down Parkway operates acceptably under cumulative conditions.

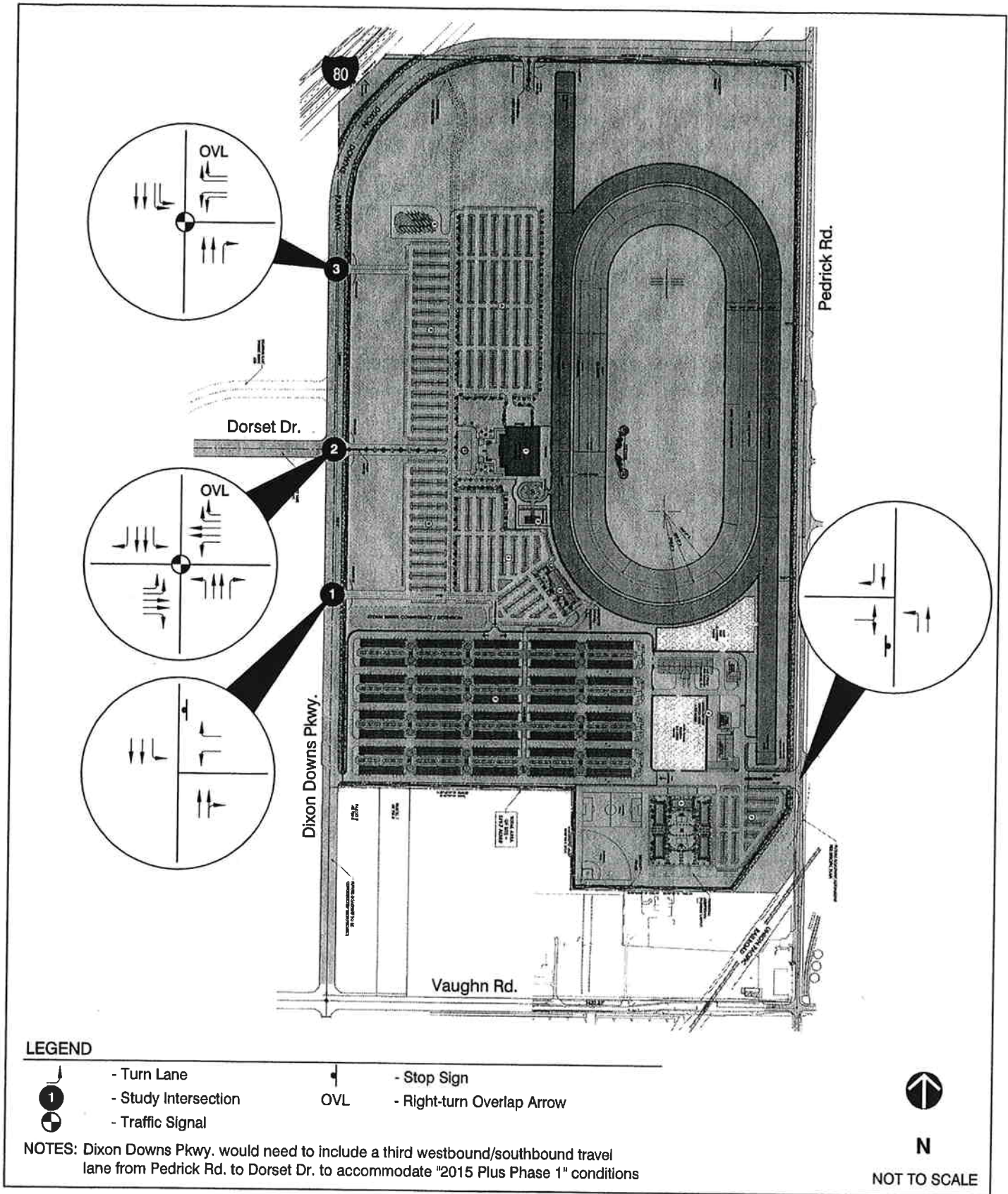
Recommended Phase 1 Access

Figure 4.10-8 displays the proposed access to Phase 1 of the project. A brief description of the three driveway accesses on Dixon Downs Parkway is provided below:

- Driveway 1 – would be the most southerly access on Dixon Downs Parkway. Based on the projected traffic volumes, this access is recommended to permit all turning movements and have stop-control approaching Dixon Downs Parkway.
- Driveway 2 – would be the main entrance located directly opposite Dorset Drive that leads to the Finish Line Pavilion. A traffic signal is recommended at this driveway with the lane configurations shown on Figure 4.10-8.
- Driveway 3 – would be located 1,000 feet north of Driveway 2. A traffic signal is recommended at this driveway with the lane configurations shown on Figure 4.10-8.

Two potential accesses on Dixon Downs Parkway located farther north of Driveway 3 are shown on the project site plan. Because these accesses are not proposed at this time, they were not assumed in place for the purposes of the access evaluation. This evaluation assumed the project access would be designed and constructed as described below.

With development of Phase 1, Dixon Downs Parkway would be constructed as a four-lane arterial from Pedrick Road to Vaughn Road. The street would be designed with a median that is of adequate width to accommodate the left-turn lanes shown on Figure 4.10-8. Figure 4.10-8 also displays the access to the racetrack from Pedrick Road. Exclusive left- and right-turn lanes on Pedrick Road would accommodate inbound movements. A shared left/right lane, controlled by a stop sign, would serve outbound



movements onto Pedrick Road. The location of this access is addressed later in this section as part of the discussion of the planned Vaughn-Pedrick Connector Road.

A review of the “Year 2015 plus Phase 1” traffic forecasts indicated that the configurations shown on Figure 4.10-8 would not be sufficient to serve the projected traffic flows. Therefore, the following additional improvement would be constructed as part of the project:

- Construct a third westbound to southbound travel lane on Dixon Downs Parkway beginning at Pedrick Road and extending to Dorset Drive where it would become a “free” right-turn.

Phase 2 Access

With development of Phase 2, two additional accesses would be provided on Dixon Downs Parkway. Refer to Figure 4.10-9 for an illustration of the access to Phases 1 and 2. A brief description of the two additional accesses is provided below:

- Driveway 4 – would be located approximately 1,500 feet west of Pedrick Road. A traffic signal is at this driveway with the lane configurations shown on Figure 4.10-9. Given the expected heavy outbound right-turn demand, this driveway is recommended to include a “free” right-turn lane that becomes the third eastbound travel lane on Dixon Downs Parkway approaching Pedrick Road.
- Driveway 5 – would be located on Dixon Downs Parkway approximately 650 feet west of Pedrick Road. This driveway would serve the 13.5-acre parcel located between Dixon Downs Parkway and the race track. It is recommended to allow inbound left-turns and right-turn movements. Left-turns from this driveway onto Dixon Downs Parkway are not recommended due to the heavy volumes of through traffic expected. A two-way connector road is proposed to connect this parcel with the balance of Phase 2, thereby providing access from this parcel to the traffic signal at Driveway 4.

No changes in traffic control or lane configurations are recommended at Driveways 1 – 3 to accommodate Phase 2 of the project. However, a review of the “Year 2015 plus Phases 1 and 2” traffic forecasts indicated that the following additional improvement (in addition to the third westbound to southbound travel lane on Dixon Downs Parkway required with Phase 1) would be constructed:

Construct a third northbound to eastbound travel lane on Dixon Downs Parkway beginning at Driveway 3 and extending to Pedrick Road. This configuration would require the removal of the “free” right-turn from Driveway 4. Under 2015 conditions, the Driveway 4 approach is recommended to consist of one left-turn lane and two “signal-controlled” right-turn lanes.

Evaluation of Operations

Traffic forecasts were developed for the project accesses for Phase 1 Tier 1 events for the weekday p.m. (55 percent attendance, or 3,740 attendees) and Sunday p.m. (100 percent attendance, or 6,800 attendees) conditions. Trips were assigned to the three accesses on Dixon Downs Parkway for Phase 1 based on the location of parking as shown on the most recent project site plan and the expected generation and directional distribution of Phase 1 trips. Since detailed site planning has not yet been conducted for Phase 2, Phases 1 and 2 trips were uniformly distributed to the various project accesses based on the expected trip generation and distribution characteristics and permitted driveway turning movements.

Traffic operations at each project access were analyzed during the weekday and Sunday p.m. peak hours (100 percent race attendance) under existing conditions and during the weekday p.m. peak hour under Year 2015 conditions. Tables 4.10-24 and 4.10-25 display the resulting operations with Phase 1 and Phases 1 and 2, respectively. Refer to Appendix 3 of the separately bound technical appendix for technical calculations including traffic forecasts at the project accesses.

Table 4.10-24

Evaluation of Access to Phase 1 (Tier 1 Event)

Intersection	Control	Average Delay ¹ – Level of Service		
		Existing Plus Phase 1 Conditions ²		2015 With NQSP Buildout Plus Phase 1 ³
		Weekday PM Peak Hour	Sunday PM Peak Hour	Weekday PM Peak Hour
Driveway 1/Dixon Downs Pkwy.	Side-Street Stop	2.9 (5.2) – A (A)	3.7 (6.1) – A (A)	2.7 (7.5) – A (A)
Driveway 2/Dixon Downs Pkwy./Dorset Drive	Traffic Signal	11.0 – B	14.9 – B	23.3 – C
Driveway 3/Dixon Downs Pkwy.	Traffic Signal	11.7 – B	17.2 – B	18.9 – B

Notes:

¹ Average control delay (in seconds per vehicle) of all vehicles at signalized intersections. At side-street stop-controlled intersections, average control delay reported for entire intersection and side-street movement with greatest delay (shown in parentheses).

² Refer to Figure 4.10-8 for assumed configuration.

³ Assumed configuration, in addition to recommendations from Figure 4.10-8, also includes a third westbound lane on Dixon Downs Parkway beginning at Pedrick Road and terminating at Dorset Drive as a “free” right-turn.

Source: Fehr & Peers, 2005.

The recommended access plan for Phase 1 is adequate to accommodate “Existing Plus Phase 1” traffic during the weekday and Sunday peak hours for Tier 1 events. All intersections would operate at LOS A or B. With the recommended 2015 improvements, operations are at LOS C or better under “2015 plus Phase 1” conditions.

The recommended access plan for Phases 1 and 2 is adequate to serve “Existing Plus Phases 1 and 2” traffic during the weekday and Sunday peak hours for Tier 1 Events. As shown in Table 4.10-25, the signalized intersections on Dixon Downs Parkway at Driveway 2/Dorset Drive, Driveway 3, and Driveway 4 would operate at LOS C or better. The two unsignalized driveways would also operate at LOS C or better overall. However, the right-turn movement from Driveway 5 onto Dixon Downs Parkway would operate at LOS F due to the heavy eastbound through volume. Operations remain at LOS C or better (with the exception of the Driveway 5 outbound movement) under “Year 2015 plus Phases 1 and 2” conditions with the additional lanes recommended on Dixon Downs Parkway.

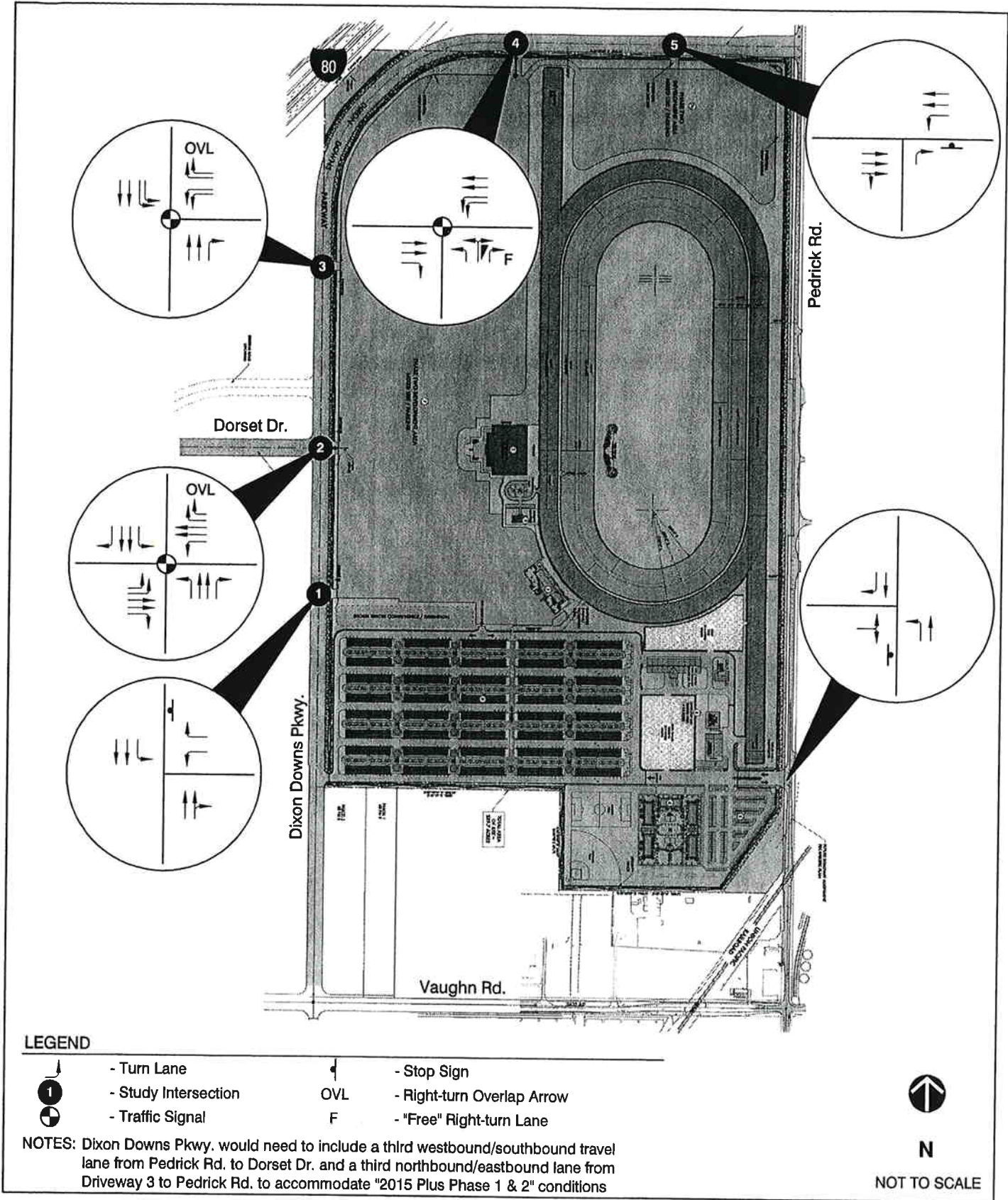


Table 4.10-25

Evaluation of Access to Phases 1 & 2 (Tier 1 Event)

Intersection	Control	Average Delay ¹ – Level of Service		
		Existing Plus Phases 1 & 2 Conditions ²		2015 With NQSP Buildout Plus Phases 1 & 2 ³
		Weekday PM Peak Hour	Sunday PM Peak Hour	Weekday PM Peak Hour
Driveway 1/Dixon Downs Pkwy.	Side-Street Stop	3.1 (7.3) – A (A)	3.8 (8.0) – A (A)	3.2 (10.3) – A (B)
Driveway 2/Dixon Downs Pkwy./Dorset Drive	Traffic Signal	24.7 – C	24.7 – C	33.3 – C
Driveway 3/Dixon Downs Pkwy.	Traffic Signal	19.1 – B	21.0 – C	14.8 – B
Driveway 4/Dixon Downs Pkwy.	Traffic Signal	20.4 – C	27.0 – C	23.9 – C
Driveway 5/Dixon Downs Pkwy.	Side-Street Stop	4.9 (12.9) – A (B)	6.9 (50.8) – A (F)	16.8 (275) – C (F)

Notes:

¹ Average control delay (in seconds per vehicle) of all vehicles at signalized intersections. At side-street stop-controlled intersections, average control delay reported for entire intersection and side-street movement with greatest delay (shown in parentheses).

² Refer to Figure 4.10-9 for assumed configuration.

³ Assumed configuration, in addition to recommendations from Figure 4.10-9, also includes a third westbound lane on Dixon Downs Parkway beginning at Pedrick Road and terminating at Dorset Drive as a “free” right-turn and a third eastbound lane beginning at Driveway 3 and extending to Pedrick Road.

Source: Fehr & Peers, 2005.

NQSP Revised Circulation System

The NQSP circulation system internal to the project site would be substantially changed with development of the Proposed Project. Figure 4.10-10 summarizes the revised circulation system, which is based on the previous circulation system and Year 2015 analysis results presented in this section. The NQSP circulation improvements are anticipated to be constructed in the future as development warrants. The following highlights the key aspects of the revised circulation system:

- Various segments of Dorset Drive, Dixon Downs Parkway, North First Street, and Pedrick Road are widened to six lanes.
- The I-80/Pedrick Road and I-80/North First Street/Currey Road interchanges are reconstructed.
- The Vaughn Road/Pedrick Road connector is constructed as a four-lane arterial. (A more detailed discussion of this connector including its proximity to the project site and the adjacent railroad tracks is provided later in this section.)

Evaluation of Parking

This section begins with a discussion of the expected demand for parking at the project site. Next, the proposed supply of parking is evaluated.

Parking Demand

Parking demand refers to the maximum or peak number of vehicles expecting to park on the project site at any given point in time. The peak parking demand was estimated for the following scenarios:

- Phase 1 (Tier 1 event with 5,100 attendees)
- Phase 1 (Tier 1 event with 6,800 attendees)
- Phase 1 (Tier 2 event)
- Phases 1 and 2 (Tier 1 event with 5,100 attendees)
- Phases 1 and 2 (Tier 1 event with 6,800 attendees)
- Phases 1 and 2 (Tier 2 event)

Table 4.10-26 summarizes the estimated parking demand for these scenarios. This table also describes the various assumptions and reference materials that were used in the calculations.

Table 4.10-26

Evaluation of Parking Demand

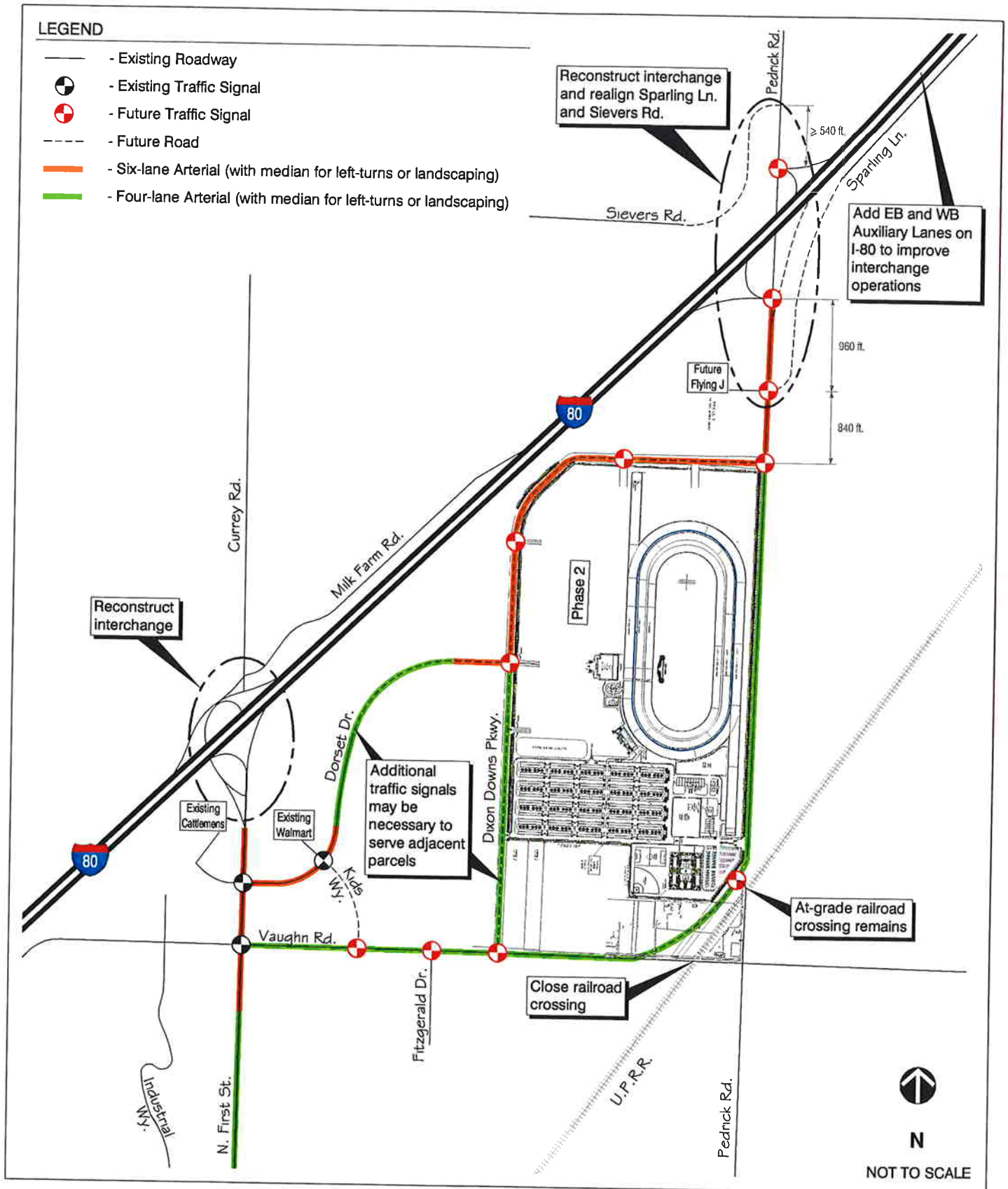
Phase	Peak Parking Demand (Occupied Spaces)		
	Tier 1 Event (Live Horseracing)		Tier 2 Event
	75% Attendance	100% Attendance	15,000-Person Concert
Phase 1 only	3,760	4,160	6,120
Phases 1 and 2	7,760	8,160	9,860

Assumptions:

- Peak Parking Demand: expected to occur on a weekend day under a scenario consisting of a sold-out Tier 1 Event and peak shopping conditions.
- Vehicle Occupancy: 1.7 persons per vehicle for 75 percent race attendance scenario and 2.0 persons per vehicle for 100 percent race attendance scenario based on analysis by Dowling Associates, who was retained by the applicant to evaluate parking. 2.8 persons per vehicle for Tier 2 event based on observations at other concert/sport venues.
- Employee/Vendor Parking: 760 parking spaces occupied by employees/vendors, which is 92 percent of available supply.
- Phase 2 Parking Demand: Peak parking demand of 4.5 spaces per thousand square feet of commercial space based on data published in *Parking Requirements for Shopping Centers* (Urban Land Institute, Second Edition, 1999). Peak parking demand of 0.2 spaces per seat for 3,000-seat movie theater based on observations by Fehr & Peers at various theaters in Northern California.
- Shared Parking between Phase 1 and 2: 15 percent of horserace attendees also visit commercial uses. 15 percent of Tier 2 Event attendees also visit commercial uses.

Source: Fehr & Peers, 2005.

The parking demand of Phases 1 and 2 was estimated based on the land uses assumed in the impact analysis. The parking demand for the retail uses was estimated based on data published in *Parking Requirements for Shopping Centers* (Urban Land Institute, Second Edition, 1999). This resource provides summary recommendations of an extensive parking demand study conducted at existing shopping centers throughout the U.S. The study evaluated the parking requirements for shopping centers based



on the 20th busiest hour of the year (i.e., the peak parking demand exceeds this rate only 19 hours per year, which is typically on the four or five busiest shopping days of the year). Based on the research findings, the peak parking demand for the retail uses would be 4.5 spaces per thousand square feet of space. Studies of existing movie theaters in Roseville, Sacramento, and San Jose revealed peak parking rates (on Friday and Saturday evenings) ranging from 0.17 to 0.24. Parking demand is less during the middle of the day on Saturdays when retail parking demand is typically greatest. Thus, a rate of 0.20 spaces per seat was assumed for the parking demand calculation.

The preceding calculations were based on the assumption that Phase 2 includes all retail and no office space. The addition of office space would reduce the peak parking demand of the site. *Shared Parking* (ULI, 1983) suggests a peak parking demand rate for a Saturday of 0.5 spaces per thousand square of office space. Thus, the peak parking demand of the site would be reduced by about four spaces for every thousand square feet of space developed as office instead of retail.

Parking Supply

Preliminary conceptual plans for Phase 1 could accommodate a total of up to approximately 4,458 parking spaces. Construction of the surface parking lots would be phased and would be provided in surface lots at two principal locations. Surface parking totaling approximately 647 spaces would be provided to serve the racetrack's backstretch facilities including the Groom's Quarters, Horse Barns and Service Areas (Mechanics building, Hay/Straw Feed building, Manure Transfer building, and future Veterinary Clinic) and the approximately 484 backstretch employees who would be working out of these facilities. These backstretch parking spaces would be principally located adjacent to the Groom's Quarters (407 spaces) and the Horse Barn/Service Areas (240 spaces) with access off of Pedrick Road. An additional 180 designed to accommodate horse trailer parking spaces would be located adjacent to the Service Area. The majority of the Phase 1 parking (3,637 spaces) would be located around the Finish Line Pavilion Building. The Finish Line parking would also include twenty spaces designated for bus parking.

Table 4.10-26 indicates that a sold-out Tier 1 event would generate a demand for 4,160 spaces, which is about 93 percent of the proposed supply of 4,458 spaces. Parking studies often use an "effective supply" of a parking lot that is 90 to 95 percent of the total supply. The 5 to 10 percent reduction takes into consideration circulating vehicles looking for a space, a vehicle occupying two or spaces, a common tendency not to parking in the most remote spaces, and other parking inefficiencies. During sold-out Tier 1 events, vehicles will likely be directed to parking areas by attendants, which will limit any parking inefficiencies. As a result, the proposed supply of parking is adequate to accommodate a sold-out Tier 1 event.

The demand for parking for a Tier 2 event (excluding employees/vendors) would be 5,357 spaces. Since only 3,637 spaces are provided pursuant to the Phase 1 parking program, approximately 1,750 more spaces would be necessary. With Phase 1 developed, the project site appears to have an adequate amount of undeveloped property to provide temporary dirt or gravel parking lots for concert attendees.

The minimum amount of parking provided to accommodate buildout of both Phase 1 and Phase 2 is 6,873 spaces. According to Table 4.10-26, Phases 1 and 2 with a sold-out Tier 1 event would have a demand of 8,160 parking spaces. Assuming an effective supply of 95 percent, the site would need to have approximately 8,600 spaces to accommodate this event. Phases 1 and 2 with a Tier 2 event would require a supply of approximately 10,400 spaces to accommodate the entire parking demand on-site.

Discussion of Alternative Project Access

Dorset Drive is proposed to intersect Dixon Downs Parkway directly opposite the Finish Line Pavilion (Driveway 2). An alternative alignment of Dorset Drive under consideration would intersect Dixon Downs Parkway approximately 350 feet to the north. With this alternative alignment, the traffic signal at the realigned Dorset Drive/Dixon Downs Parkway intersection would be located 350 feet north of the signal at Driveway 2 and 650 feet south of the signal at Driveway 3. Both signals would still be required. This spacing is less than desired and would likely cause operational problems.

An alternative alignment of Dixon Downs Parkway approaching Pedrick Road is also being considered. The proposed alignment borders the north end of the track. The alternative alignment would extend in a northeast direction through the Flying J property to intersect Pedrick Road approximately 840 feet north of its proposed intersection.

A major drawback of the alternative alignment of Dixon Downs Parkway is that it would become the primary access to the (proposed) Flying J Truck Stop, which would be located north of the project site and west of Pedrick Road. This would introduce an undesirable mix of heavy vehicles and horserace patrons using this road. The *Flying J Conceptual Site Plan* (Morton & Pitalo, July 2004) shows a right-turn only driveway on Pedrick Road approximately 250 feet north of the Pedrick Road/Dixon Downs Parkway intersection. Two driveways would be situated on Dixon Downs Parkway within 500 feet of Pedrick Road. The number of driveways, their proximity to the Dixon Downs Parkway/Pedrick Road intersection (which requires two “free-flow” right-turns to accommodate Phases 1 and 2 traffic), and the composition of vehicles that would use these driveways (i.e., heavy vehicles) has the potential to cause vehicular conflicts and other operational problems.

Under the proposed alignment of Dixon Downs Parkway, access to the Flying J property could be provided by a signalized entrance. This new signalized intersection would be situated approximately 840 feet north of the Pedrick Road/Dixon Downs Parkway intersection and 960 feet south of the existing location of the I-80 EB Ramps/Pedrick Road intersection. With reconstruction of the interchange, it is likely that this ramp intersection will be relocated a short distance further to the south.

Vaughn Road-Pedrick Road Connector

The NQSP shows a new road that connects Vaughn Road and Pedrick Road to the north of the UPRR tracks. This connection would provide improved circulation to the Specific Plan area and allow for one or both of the at-grade UPRR track crossings to be eliminated. Figure 4.10-11 shows a conceptual diagram of the connector road including the access that would be provided to the project site with its construction.

Temporary access to Dixon Downs would be provided at the proposed driveway on Pedrick Road, which is located approximately 400 feet north of the at-grade UPRR crossing. Northbound left- and southbound right-turn pockets would be provided at this driveway. Stop-control would be provided on the project driveway approach.

The temporary access would be closed upon construction of the Vaughn-Pedrick connector road. A new project access would be constructed along the connector road that would be aligned directly opposite the realignment of Pedrick Road. The new Pedrick Road/Vaughn Road/Dixon Downs driveway intersection would be signalized. The at-grade UPRR crossing on Pedrick Road would be

maintained, while the at-grade crossing on Vaughn Road would be eliminated. Vaughn Road would be turned into a cul-de-sac on either side of the tracks. This configuration is illustrated on Figure 4.10-11.

More detailed studies will be necessary to identify the precise alignment of the connector road. An alternative alignment to the one shown on Figure 4.10-11 would position the connector road adjacent to the railroad tracks. This alignment would position the stop bar on the northbound Pedrick Road approach to the connector road prior to the at-grade railroad crossing. This is in contrast to the alignment shown on Figure 4.10-11, which would allow vehicles to be stored between the signalized intersection and the at-grade crossing.

The alignment on Figure 4.10-11 does not preclude the City from being able to construct a grade-separation of Pedrick Road and the UPRR tracks, as shown in the *City of Dixon General Plan*.

Many of the assumptions and methodologies described on the previous pages are conservative so as to not understate the impacts of the Proposed Project on the transportation system. Some examples of these conservative assumptions include:

- Live horseracing events occur during peak harvest season.
- Assumed typical weekday attendance at Dixon Downs is substantially greater than levels observed at Golden Gate Fields or Bay Meadows.
- Phase 2 of the project is assumed to consist of all retail (versus a mix of office and retail) because retail uses generate more trips than office uses.
- The assumed average vehicle occupancy of 2.8 persons for Tier 2 events is on the more conservative end of the generally-accepted range of 2.5 to 3.5 for live concerts and sporting events.
- A relatively small percentage of trips were assumed to remain internal between Phases 1 and 2. The vast majority of trips were assumed to be new external trips added to the surrounding roadway system.

Impacts and Mitigation Measures

This section identifies the significant impacts of the Proposed Project. Separate impact statements are made for Tier 1 and Tier 2 events. In addition, impacts are identified for Phase 1 only and Phases 1 and 2 combined. All technical calculations for the recommended mitigation measures are included in Appendix 6 of the separately bound appendix.

Impact 4.10-1	Implementation of the Proposed Project (Tier 1 event) could cause existing operations at study intersections to worsen from acceptable to unacceptable levels.
Applicable Policies and Regulations	<i>City of Dixon General Plan Policy VI.E.1. Northeast Quadrant Specific Plan-Hearing Draft Policy 4.9.2.1</i>
Significance before Mitigation	Phase 1: Significant Phases 1 and 2: Significant
Applicable NQSP Mitigation Measures	None
Mitigation Measures	Phase 1: 4.10-1(a) and (b) Phases 1 and 2: 4.10-1(c) and (d)
Significance after Mitigation	Phase 1: Less than Significant Phases 1 and 2: Significant and Unavoidable (due to significant impact remaining at A Street/First Street intersection)

Phase 1

With the addition of traffic from Phase 1 (Tier 1 event), the following intersections would worsen from acceptable to unacceptable levels during the weekday and Sunday p.m. peak hours:

- I-80 EB Ramps/Pedrick Road (all analysis periods)
- I-80 EB Ramps/North First Street (all analysis periods)

This is considered a *significant impact*.

Phases 1 and 2

With the addition of traffic from Phases 1 (Tier 1 event) and 2, the following intersections (in addition to the two listed above) would worsen from acceptable to unacceptable levels during the weekday and/or Sunday p.m. peak hours:

- I-80 WB Ramps/Pedrick Road (all analysis periods)
- North First Street/Dorset Drive (Sunday race with 100 percent attendance)
- North First Street/West A Street (Sunday race with 100 percent attendance)

The addition of Phase 2 traffic would create a significant impact at the I-80 WB Ramps/Pedrick Road intersection. It would also exacerbate unacceptable operations (with Phase 1) at the I-80 EB Ramps/Pedrick Road intersection. This is considered a *significant impact*.

Mitigation Measures

Implementation of Mitigation Measures 4.10-1(a) and (b) would reduce impacts associated with Phase 1 to a *less-than-significant level*. Implementation of Mitigation Measures 4.10-1(c) and (d) would reduce

impacts associated with Phases 1 and 2 to a *less-than-significant level*, with the exception of the impact at the A Street/First Street intersection, which would remain *significant and unavoidable*.

4.10-1(a) *(Phase 1) I-80 EB Ramps/Pedrick Road*

Install a traffic signal at the I-80 EB Ramps/Pedrick Road intersection, widen Pedrick Road to include two northbound left-turn lanes at the intersection, and widen the loop on-ramp to include two lanes that merge into a single lane prior to I-80.

This improvement would restore operations to LOS D or better under “existing plus Phase 1” conditions for a Tier 1 event. It should be noted that because the anticipated on-ramp volume under this scenario does not exceed 1,500 vehicles per day, a two-lane on-ramp onto eastbound I-80 was not recommended.

While a detailed engineering study of the feasibility of this improvement has not been performed, a preliminary evaluation suggests that these improvements are “constructible”. The *Highway Design Manual* specifies that loop ramps have radii in the range of 45 to 60 meters. The EB loop on-ramp has a 60-meter radius. Thus, widening of the interior of the ramp could be accomplished while maintaining consistency with this design standard. The lane transitions required to construct a second northbound left-turn lane on Pedrick Road are limited by the proximity of the two-lane overcrossing. Using lane transition standards set forth in the *Highway Design Manual*, it appears that an adequate lane transition could be provided assuming widening of both sides of Pedrick Road without requiring widening of the overcrossing structure.

It is unclear whether Caltrans would approve a partial improvement to the interchange, especially given the non-standard design of certain features of the interchange and the uncertain timing of Phase 2 of the project and the Flying J Truck Stop project. In all likelihood, a Project Study Report (PSR) would need to be prepared to analyze the proposed improvements in more detail.

4.10-1(b) *(Phase 1) I-80 EB Ramps/North First Street*

Install a traffic signal at the I-80 EB Ramps/North First Street intersection and lengthen the northbound left-turn lane.

The stop-controlled eastbound left-turn movement at this intersection would experience LOS F operations during all analysis periods. Since this movement is less than five vehicles per hour, it is not the primary reason that a traffic signal is recommended. The traffic signal is recommended to serve the approximately 720 vehicles that would turn left onto the overcrossing structure during the Sunday p.m. peak hour (race with 100 percent attendance). Given that this movement is opposed by more than 250 through vehicles exiting from EB I-80, a substantial left-turn queue (likely in excess of 15 vehicles) would develop. The technical calculations indicate that the installation of a traffic signal at this location would result in LOS D or better operations, and not cause traffic on the EB off-ramp to spill back to the I-80 mainline.

A second northbound left-turn lane is not recommended (despite the heavy left-turn volume) because there would be insufficient distance to merge two receiving lanes departing the signal into a single lane prior to the overcrossing. Furthermore, the signal would operate essentially with two phases, which would allow a substantial amount of green time to be allocated to the left-turn movement. The exact

amount of storage to be provided in the left-turn lane should be determined in coordination with Caltrans and should consider traffic to be added by Phase 1 and 2 of the project and other pending projects in the area (e.g., Milk Farm).

4.10-1(c) *(Phases 1 and 2) I-80/Pedrick Road Interchange*

Reconstruct the I-80/Pedrick Road interchange as follows:

- *Widen overcrossing to have two southbound lanes and one northbound lane.*
- *Construct two-lane “slip” on-ramp from northbound Pedrick Road that narrows to a single lane onto eastbound I-80.*
- *Relocate Sparling Lane to intersect Pedrick Road 960 feet south of its current location (opposite the future access into the Flying J property).*
- *Relocate Sievers Road to intersect Pedrick Road at least 540 feet north of its current location*
- *Construct an auxiliary lane in each direction of I-80 that begins at Pedrick Road and extends easterly for about 0.5 miles to conform to the existing eight-lane section of I-80 (west of Kidwell Road).*

Implementation of this measure would require the City of Dixon to serve as the lead agency in coordinating with Caltrans, Solano County, and property owners to facilitate construction of the interchange improvements. The improvements listed above do not consider potential civil engineering and right-of-way constraints, which could affect the design. The exact improvements would be determined through a Project Study Report/Project Report (PSR/PR) process. The PSR/PR process would also require the preparation of an environmental document followed by the interchange design.

Table 4.10-27 summarizes the traffic operations at the I-80/Pedrick Road interchange with the above mitigation measure in place. The recommended improvements would provide LOS B or better operations at each ramp terminal intersection under “existing plus Phase 1 and 2” conditions for Tier 1 events. Operations during Tier 2 events and under Year 2025 conditions are discussed later in this section.

These improvements are generally consistent with the I-80/Pedrick Road interchange improvements shown in the *I-80/I-680/I-780 Major Investment and Corridor Study* (Korve Engineering, 2004). That study determined that additional right-of-way would be needed to construct these improvements, which were estimated to cost \$18.8 million. A gasoline station was recently constructed in the northwest quadrant of the interchange. This facility would appear to preclude the ability to construct a slip on-ramp onto westbound I-80 from southbound Pedrick Road. The analysis results shown in Table 4.10-27 assume this slip on-ramp is not in place.

4.10-1(d) *(Phases 1 and 2)*

Convert the westbound through lane on the Dorset Drive approach to North First Street from an exclusive through lane to a shared through/right lane.

Table 4.10-27

Intersection and Freeway Operations with Recommended Mitigations – Existing Plus Phases 1 & 2 Conditions

Facility		Existing Plus Phases 1 & 2 Without Mitigation				Existing Plus Phases 1 & 2 With Mitigation			
		Weekday PM Peak Hour (Tier 1 Event with 55% Att)	Sunday PM Peak Hour (Tier 1 Event with 100% Att.)	Saturday Pre-Tier 2 Event Peak Hour	Sunday Post-Tier 2 Event Peak Hour	Weekday PM Peak Hour (Tier 1 Event with 55% Att)	Sunday PM Peak Hour (Tier 1 Event with 100% Att.)	Saturday Pre-Tier 2 Event Peak Hour	Sunday Post-Tier 2 Event Peak Hour
<i>Intersections</i>									
15	I -80 WB Ramps/ Pedrick Road	288 – F	116 – F	>999 – F	78 – F	18.6 – B	15.8 – B	640 – F	15.4 – B
16	I -80 EB Ramps/ Pedrick Road	733 – F	787 – F	>999 – F	> 999 – F	5.9 – A	6.9 – A	44.0 – D	8.7 – A
27	Pedrick Rd./Dixon Downs Pkwy.	17.2 – B	26.4 – C	397 – F	162 – F	14.8 – B	35.3 – D	37.5 – D	348 – F
	Pedrick Rd./ Sparling Ln. (reloc.)	Did Not Exist				7.1 – A	14.0 – B	42.7 –D	20.0 – B
<i>Freeway Segments</i>									
	I-80 EB from Pedrick Road to Kidwell Road	37.9 – E	40.9 – E	29.5 – D	>45 – F	25.3 – C	26.3 – D	21.5 – C	31.2 – D
	I-80 WB from Kidwell Road to Pedrick Road	31.5 – D	36.7 – E	>45 – F	35.6 – E	22.6 – C	24.8 – C	35.3 – E	24.4 – C
<i>Ramp Junctions</i>									
	I-80 EB On-ramp at Pedrick Road	37.1 – E	39.1 – E	30.7 – D	> 43 – F	Lane Add – 1,775 vph	Lane Add – 2,000 vph	Lane Add – 1,000 vph	Lane Add – 2,870 vph
	I-80 WB Off-ramp at Pedrick Road	36.0 – E	36.9 – E	>43 – F	36.5 – E	25.9 – C	26.1 – C	> 43 – F	25.1 – C

Notes:
¹ Average control delay (in seconds per vehicle) at intersections. Density in passenger cars per lane per mile for freeway segments and ramp junctions (with exception of lane adds).
 - Refer to Figure 4.10-11 for recommended mitigation.
 - The delay estimates for intersections operating at LOS F are imprecise estimates given limitations in the analysis procedures for oversaturated conditions. They are displayed primarily to illustrate the magnitude of difference in operations between scenarios.
 - Weekday and Sunday PM peak hours occur between 4 and 6 p.m. Saturday pre-Tier 2 event peak hour occurs from 12- 1 p.m. and Saturday post-Tier 2 event peak hour occurs from 5 to 6 p.m..
 Source: Fehr & Peers, 2005.

The westbound right-turn volume on Dorset Drive would be approximately 820 vehicles under “Existing Plus Phases 1 and 2” conditions during the Sunday p.m. peak hour with a Tier 1 event (100 percent race attendance). The adjacent through lane would carry 10 vehicles during this hour. This measure would substantially improve lane utilization and reduce queuing on the westbound approach. Intersection operations would be improved to LOS C during the Sunday p.m. peak hour under all analysis scenarios.

The impact of Phases 1 and 2 during the Sunday p.m. peak hour with a Tier 1 event (100 percent live race attendance) at the North First Street/West A Street intersection is *significant and unavoidable*. This intersection was recently improved (via the installation of a traffic signal and crosswalks with push-button pedestrian actuation) to better accommodate traffic and pedestrian movements through the intersection. Due to the physical constraints on three of the four quadrants and the desire of the City and local merchants to maintain on-street parking, no additional improvements are feasible at this intersection.

The I-80 WB Ramps/North First Street intersection would continue to operate acceptably with the addition of Phases 1 and 2 traffic. This intersection has an atypical design that may be confusing to some motorists. While the project would not cause a particular movement to operate unacceptably, it may create additional driver confusion, particularly for motorists exiting from WB I-80. Minor intersection improvements such as pavement rehabilitation, new lane striping, new signs, and improved lane channelization would be beneficial to motorists. A more substantial set of physical improvements may be necessary with the Milk Farm project. These improvements would be desirable (and could be made in conjunction with improvements on the south side of the interchange), but are not necessary to mitigate a project impact.

Impact 4.10-2	Implementation of the Proposed Project (Tier 1 event) could result in inadequate vehicular access to the project site from Pedrick Road under existing conditions.	
Applicable Policies and Regulations	<i>City of Dixon General Plan Policies VI.E.1 and VI.E.13</i>	
Significance before Mitigation	Phase 1:	Significant
	Phases 1 and 2:	Significant
Applicable NQSP Mitigation Measures	None	
Mitigation Measures	Phase 1:	4.10-2(a)
	Phases 1 and 2:	4.10-2(b)
Significance after Mitigation	Phase 1:	Less than Significant
	Phases 1 and 2:	Less than Significant

Phase 1

Under “Existing Plus Phase 1” conditions, approximately 1,750 vehicles are expected to turn left from Dixon Downs Parkway onto northbound Pedrick Road during the Sunday p.m. peak hour (100 percent race attendance). This exceeds the capacity of the dual left-turn lanes assumed in the analysis at this intersection. Therefore, this impact is considered *significant*.

Phases 1 and 2

With the addition of Phase 2 traffic, the eastbound left-turn volume would increase to 2,620 vehicles during the Sunday p.m. peak hour (100 percent race attendance) and the southbound right-turn movement from Pedrick Road onto Dixon Downs Parkway would be over 1,000 vehicles during the weekday p.m. peak hour. The assumed configuration of a single southbound right-turn lane and two eastbound left-turn lanes at the Pedrick Road/Dixon Downs Parkway intersection is not adequate to serve these traffic volumes and their storage requirements. This impact is considered *significant*.

Mitigation Measures

Implementation of Mitigation Measure 4.10-2(a) would reduce impacts associated with Phase 1 to a *less-than-significant level*. Implementation of Mitigation Measure 4.10-2(b) would reduce impacts associated with Phases 1 and 2 to a *less-than-significant level*.

4.10-2(a) (Phase 1)

Construct a third left-turn lane on the Dixon Downs Parkway approach to Pedrick Road and widen Pedrick Road to include three northbound lanes, which taper to two lanes approximately 500 feet north of the intersection. Widen Pedrick Road to include two southbound lanes that begin approximately 500 feet upstream of the proposed Dixon Downs Parkway (see Figure 4.10-12).

4.10-2(b) (Phases 1 and 2)

Widen Pedrick Road to three lanes in each direction between I-80 and the proposed Dixon Downs Parkway. The two southbound outside lanes would become “free” right-turn lanes onto westbound Dixon Downs Parkway (see Figure 4.10-13).

These improvements are necessary to accommodate the expected traffic flows on Pedrick Road between Dixon Downs Parkway and I-80 with Phases 1 and 2 of the project. Project traffic would primarily use the two outside lanes in each direction of Pedrick Road, while through traffic would use the inside lane. One lane in each direction of Pedrick Road is adequate south of Dixon Downs Parkway.

Although right-of-way is not currently available on Pedrick Road to accommodate this widening, the owners of the properties adjacent to Pedrick Road are expected to be willing to work with the applicant and the City to allow for these improvements to be made. This is because the widening of Pedrick Road improves access to these properties. Therefore, it was concluded that the current lack of available right-of-way does not necessitate that the impact be considered significant and unavoidable.

Figures 4.10-12 and 4.10-13 illustrate the recommended mitigations for Phase 1 and Phase 2, respectively. The addition of a third left-turn lane from Dixon Downs Parkway onto northbound Pedrick Road would allow project traffic to more efficiently depart the site. The construction of two “free-flow” right-turn lanes from southbound Pedrick Road onto Dixon Downs Parkway would accommodate the 1,000 vehicles projected to make this move during the weekday p.m. peak hour with Phases 1 and 2.

Impact 4.10-3	Implementation of the Proposed Project (Tier 1 Event) could cause existing operations on I-80 to worsen from acceptable to unacceptable levels.	
Applicable Policies and Regulations	Caltrans standards	
Significance before Mitigation	Phase 1:	Significant
	Phases 1 and 2:	Significant
Applicable NQSP Mitigation Measures	None	
Mitigation Measures	Phase 1:	4.10-3(a)
	Phases 1 and 2:	4.10-3(b)
Significance after Mitigation	Phase 1:	Significant and Unavoidable
	Phases 1 and 2:	Significant and Unavoidable

Phase 1

With the addition of traffic from Phase 1 during a Tier 1 Event, the following segments of I-80 would worsen from acceptable (LOS D or better) to unacceptable (LOS E or F) conditions during the weekday and/or Sunday p.m. peak hours:

- I-80 WB between Curry Road and Pitt School Road (Sunday race with 100 percent attendance)
- I-80/Pedrick Road WB off-ramp diverge area (Sunday race with 100 percent attendance)

This is considered a *significant impact*.

Phases 1 and 2

With the addition of traffic from Phase 1 (Tier 1 event) and Phase 2, the following segments of I-80 would worsen from acceptable (LOS D or better) to unacceptable (LOS E or F) conditions during the weekday and/or Sunday p.m. peak hours:

- I-80 WB between Curry Road and Pitt School Road (Sunday race with 100 percent attendance)
- I-80/Pedrick Road WB off-ramp diverge area (Sunday race with 100 percent attendance)
- I-80 EB between Pedrick Road and Kidwell Road (all analysis periods)
- I-80 WB between Pedrick Road and Kidwell Road (Sunday race scenarios with 75 percent and 100 percent attendance)
- I-80/Pedrick Road EB on-ramp merge area (all analysis periods)

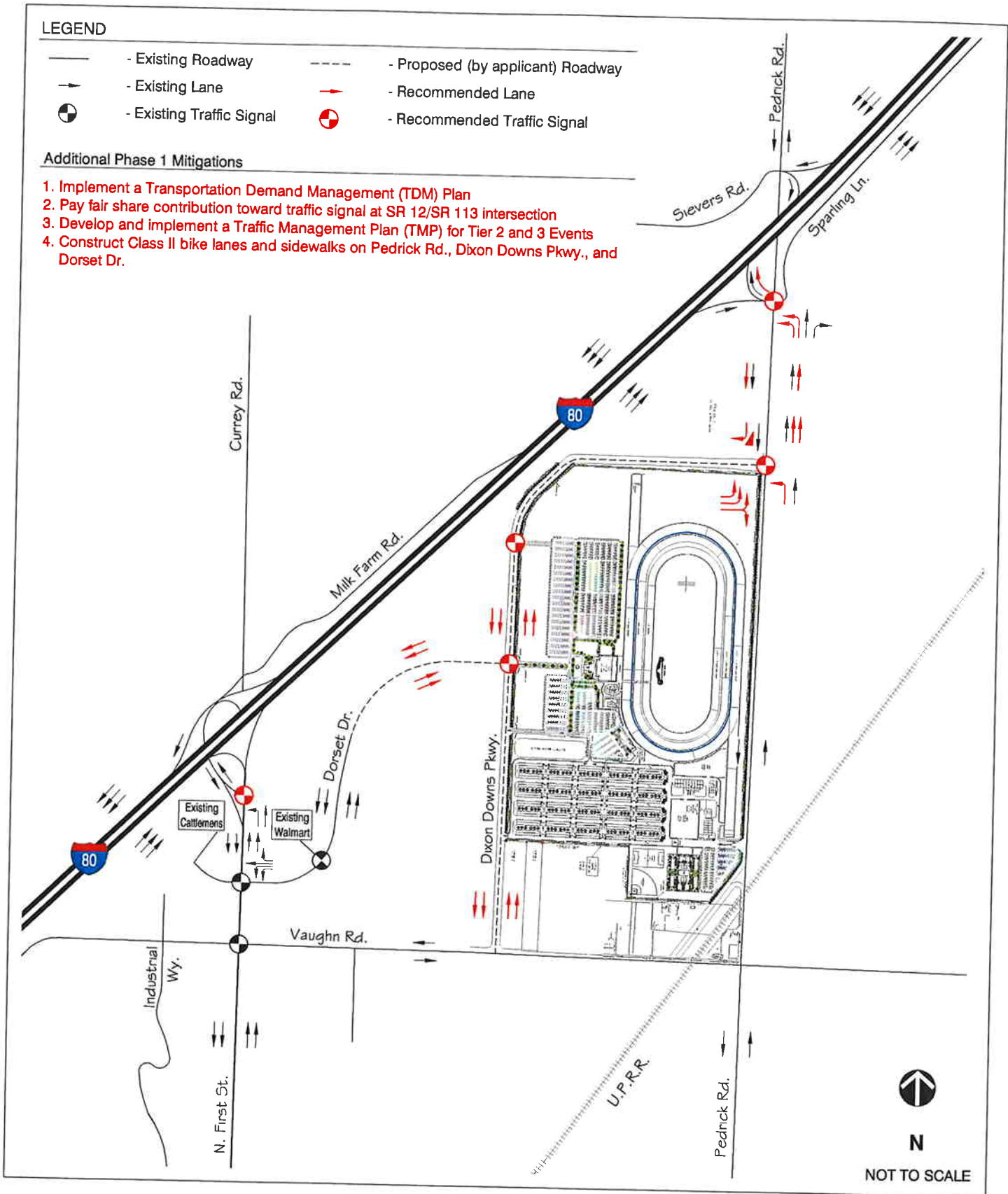
This is considered a *significant impact*.

LEGEND

- | | | | |
|---|---------------------------|---|-----------------------------------|
|  | - Existing Roadway |  | - Proposed (by applicant) Roadway |
|  | - Existing Lane |  | - Recommended Lane |
|  | - Existing Traffic Signal |  | - Recommended Traffic Signal |

Additional Phase 1 Mitigations

1. Implement a Transportation Demand Management (TDM) Plan
2. Pay fair share contribution toward traffic signal at SR 12/SR 113 intersection
3. Develop and implement a Traffic Management Plan (TMP) for Tier 2 and 3 Events
4. Construct Class II bike lanes and sidewalks on Pedrick Rd., Dixon Downs Pkwy., and Dorset Dr.

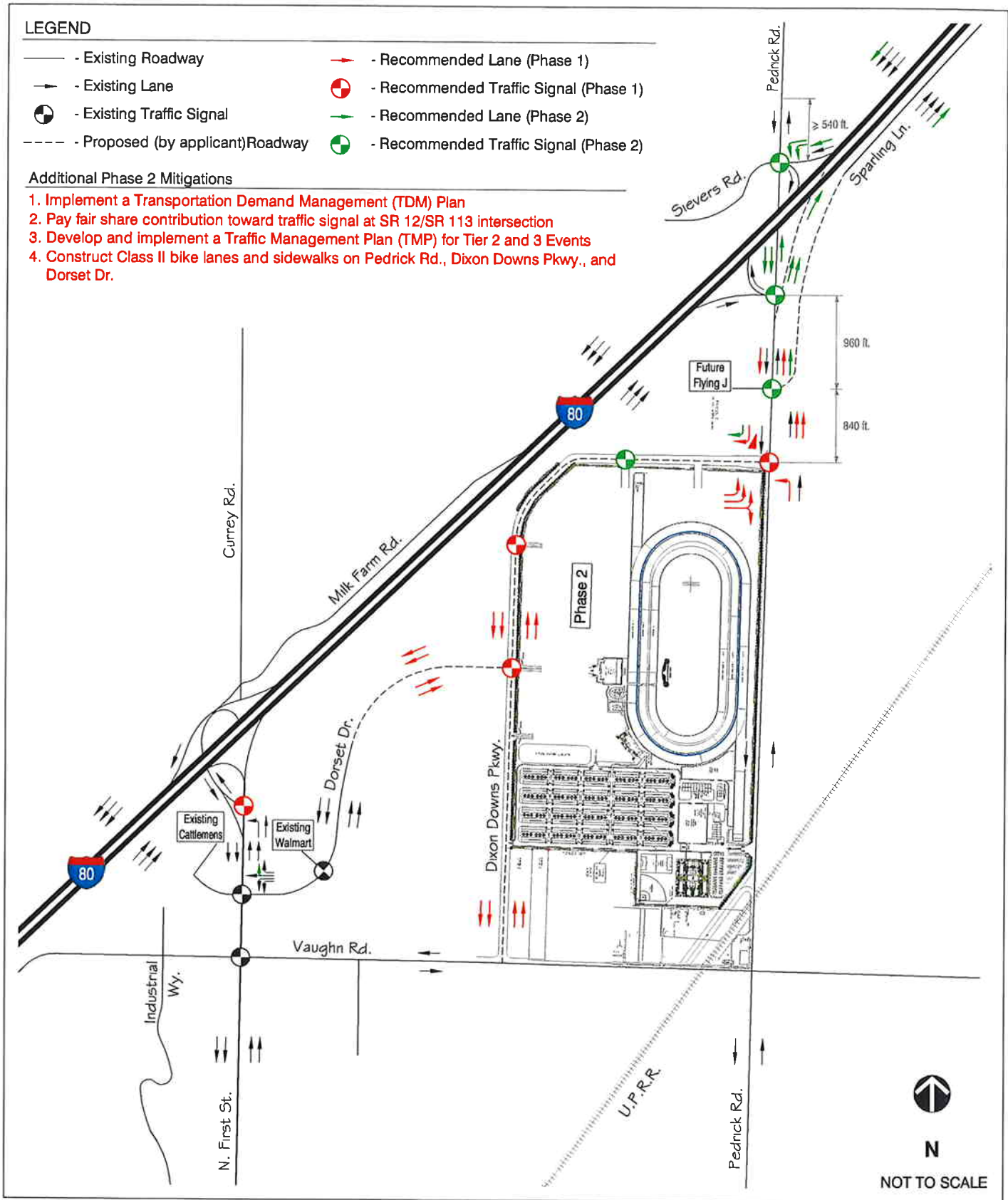


LEGEND

- - Existing Roadway
- - Existing Lane
- ⊙ - Existing Traffic Signal
- - - - Proposed (by applicant) Roadway
- (red) - Recommended Lane (Phase 1)
- ⊙ (red) - Recommended Traffic Signal (Phase 1)
- (green) - Recommended Lane (Phase 2)
- ⊙ (green) - Recommended Traffic Signal (Phase 2)

Additional Phase 2 Mitigations

1. Implement a Transportation Demand Management (TDM) Plan
2. Pay fair share contribution toward traffic signal at SR 12/SR 113 intersection
3. Develop and implement a Traffic Management Plan (TMP) for Tier 2 and 3 Events
4. Construct Class II bike lanes and sidewalks on Pedrick Rd., Dixon Downs Pkwy., and Dorset Dr.



Mitigation Measures

Implementation of Mitigation Measure 4.10-3(a) would reduce the number of single-occupant vehicle trips made by the project during peak hours. However, the impact on WB I-80 between Currey Road and Pitt School Road under Phase 1 with a Tier 1 event would remain *significant and unavoidable*. This conclusion also applies with the addition of Phase 2 traffic.

The impact of Phase 1 at the WB I-80 off-ramp at Pedrick Road would occur during the Sunday p.m. peak hour with 100 percent race attendance. During this hour, the ramp diverge area would operate at the transition between LOS D and E. Given the infrequent nature of sold-out Sunday events (less than five per year are expected) and the fact that the mitigation would require less than 100 feet of additional deceleration on I-80, mitigation for the WB I-80 off-ramp at Pedrick Road is recommended to be deferred until Phase 2 when it becomes necessary. Therefore, this impact would also remain *significant and unavoidable*.

Implementation of Mitigation Measure 4.10-3(b) would improve operations in each direction of I-80 between Pedrick Road and Kidwell Road to LOS D or better under “Existing plus Phases 1 and 2” conditions with a Tier 1 Event (see Table 4.10-27). It would also restore the I-80 eastbound on-ramp merge and westbound off-ramp diverge movements from the Pedrick Road interchange to acceptable levels. Therefore, this portion of the impact would be reduced to a less-than-significant level. Yet, the overall impacts to I-80 would remain *significant and unavoidable*.

4.10-3(a) (Phase 1)

Implement Transportation Demand Management (TDM) strategies to reduce the number of single-occupant vehicle trips generated by the project during the Sunday p.m. peak hour. Examples include: preferential parking (or other incentives) for carpools/vanpools, a shuttle that operates between the site and the planned multi-modal station in downtown Dixon, strategies to encourage shoppers/race patrons to use public transit, and post-race activities that keep attendees on-site.

The effects of TDM strategies are difficult to quantify. While some level of reduced single-occupant vehicle trips would likely be achieved, it is unlikely that the reduction would be sufficient to offset any of the identified significant impacts.

4.10-3(b) (Phase 2)

Construct an auxiliary lane in each direction of I-80 that begins at Pedrick Road and extends easterly for about 0.5 miles to conform to the existing eight-lane section of I-80 (west of Kidwell Road).

Implementation of this measure, which is illustrated on Figure 4.10-13, would restore operations to LOS D or better in each direction of I-80 between Pedrick Road and Kidwell Road under “Existing plus Phase 1 and 2” conditions for all analysis periods during a Tier 1 event.

The two-lane “slip” on-ramp from northbound Pedrick Road onto EB I-80 would narrow to a single lane that would become the fourth eastbound lane. This configuration does not require on-ramp traffic to merge into the adjacent through lane on I-80. According to the *Highway Capacity Manual*, a single lane on-ramp has a capacity of 2,000 to 2,100 vehicles per hour depending on the design speed of the ramp.

The volume under existing conditions with Phase 1 and 2 would be 1,775 vehicles during the weekday p.m. peak hour and 2,000 vehicles during the Sunday p.m. peak hour (with 100 percent race attendance). Thus, the on-ramp volume would be below its capacity during the weekday p.m. peak hour, but at or near capacity during the Sunday p.m. peak hour (with 100 percent race attendance). Given this situation and the potential for the Flying J Truck Stop to also be constructed and add more traffic to this ramp, Caltrans may prefer that the on-ramp remain as two lanes upon entering I-80 (thereby creating a fifth eastbound lane). The outside lane would then merge an appropriate distance east of the interchange.

The *I-80/I-680/I-780 Major Investment and Corridor Study* (Korve Engineering, 2004) evaluated the widening of I-80 to four lanes in each direction between Meridian Road and Kidwell Road from cost, environmental, and prioritization perspectives. All widening would be accomplished within the existing right-of-way. The project would require reconstruction of two bridges and two irrigation canals. The widening is estimated to cost \$60 million. A detailed cost estimate has not been developed for the portion of the widening east of Pedrick Road.

With the Pedrick Road interchange and auxiliary lane improvements, the WB I-80 off-ramp at Pedrick Road would be configured as a two-lane off-ramp (a dedicated lane and a shared off-ramp/through lane). This configuration would provide LOS C or better operations for all analysis periods.

Impact 4.10-4	Implementation of the Proposed Project (Tier 1 event) could cause existing operations on roadways of regional significance to worsen from acceptable to unacceptable levels.	
Applicable Policies and Regulations	STA objective from Arterials, Highways, and Freeway Element (2002)	
Significance before Mitigation	Phase 1:	Significant
	Phases 1 and 2:	Significant
Applicable NQSP Mitigation Measures	None	
Mitigation Measures	Phase 1:	4.10-4(a)
	Phases 1 and 2:	4.10-4(b)
Significance after Mitigation	Phase 1:	Significant and Unavoidable
	Phases 1 and 2:	Less than Significant

Phase 1

With the addition of traffic from Phase 1 (Tier 1 event), the following roadways of regional significance would worsen from acceptable to unacceptable levels during the weekday and/or Sunday p.m. peak hours:

- I-80 between Midway Road and West A Street (all analysis periods)
- I-80 between Kidwell Road to SR 113 (Sunday race with 100 percent attendance)

This is considered a *significant impact*.

Phases 1 and 2

With the addition of traffic from Phases 1 (Tier 1 event) and 2, the following roadways of regional significance (in addition to those listed above) would worsen from acceptable to unacceptable levels during the Sunday p.m. peak hour:

- I-80 between Midway Road and West A Street (all analysis periods)
- I-80 between Kidwell Road to SR 113 (Sunday race with 100 percent attendance)
- I-80 between Mace Boulevard and the Yolo Causeway (Sunday race with 75 percent and 100 percent attendance)
- SR 113 from West A Street to Midway Road (Sunday race with 100 percent attendance)
- West A Street from I-80 to Pitt School Road (Sunday race with 100 percent attendance)

In addition, traffic from Phase 1 would cause the peak hour warrant for a traffic signal to be met at the SR 12/SR 113 intersection during the weekday and Sunday p.m. peak hours. The addition of Phase 2 traffic furthers the need for a signal. Operations on the stop-controlled SR 113 approach worsen from LOS C to D during the Sunday p.m. peak hour with Phase 1 (100 percent race attendance). Operations would degrade to LOS E with Phases 1 and 2 resulting in a *significant impact*.

Mitigation Measures

Impacts to I-80

Mitigation Measure 4.10-3(a) would encourage the use of transportation demand management strategies. However, it is unlikely that they would achieve a trip reduction of a sufficient size to reduce the impacts to I-80 to less-than-significant levels. Therefore, the impacts to I-80 would remain *significant and unavoidable*.

If implemented, Mitigation Measure 4.10-3(b) would represent a substantial contribution by the project toward the ultimate widening of I-80 to eight lanes through Solano County. Additional widening of I-80 (e.g., between Pitt School Road and West A Street) in response to Impact 4.10-4 may place an undue economic hardship on the project, and may not be “roughly proportional” to the project’s impact. From a systems planning perspective, it may not be desirable to widen this portion of I-80 when other sections may be more deserving. In addition, the lane add/drop at either end of the widening may also introduce operational problems. Further, additional widening may be contrary to the following statement in the Caltrans comment letter on the NOP (dated January 30, 2004): “Special attention should be given to the development of alternate solutions to circulation problems that do not rely on increased highway construction”. Implementation of TDM strategies, as discussed in Mitigation Measure 4.10-3(a), is such an alternate solution.

Impacts to SR 113

Installation of a traffic signal at the SR 113/SR 12 intersection would restore operations to LOS C or better. However, because this intersection is located outside the City of Dixon, the City cannot ensure

(through permitting, conditions of approval, etc.) that a traffic signal (or other equally effective improvements) would be installed at this intersection as mitigation for project impacts. Therefore, because this intersection is not in the City’s jurisdiction, the City cannot enforce Mitigation Measure 4.10-4(a); therefore, the impact remains *significant and unavoidable*.

Impacts to West A Street between I-80 and Pitt School Road

Mitigation Measure 4.10-4(b) would reduce the Phase 2 impact to a *less-than-significant level*.

Impacts to SR 113 from West A Street to Midway Road

The segment of SR 113 from West A Street to Midway Road would operate at LOS D during the Sunday p.m. peak hour under “Existing plus Phase 1 and 2 (Tier 1 event with 100 percent race attendance)” conditions. The expected volume of 680 vehicles (in both directions) during this hour exceeds the threshold for LOS C operations by only 40 vehicles. Given that operations remain at LOS C under the weekday and Sunday (75 percent race attendance) p.m. peak hour scenarios and that sold-out Sunday race events would occur only a few days each year, improvements to this segment to restore operations to LOS C (for a Sunday with 100 percent race attendance) do not appear justified. The impact would be considered *less than significant*.

4.10-4(a) (Phase 1)

Make a fair share financial contribution toward the cost of a traffic signal (or other equally effective mitigation) at the SR 113/SR 12 intersection. The City of Dixon shall work with Solano County to develop a mechanism by which the contribution can be made and applied to this intersection.

4.10-4(b) (Phase 2)

Widen West A Street to four lanes between I-80 and Pitt School Road. In the event this widening has not been constructed as part of the Southwest Dixon Specific Plan, then the project applicant would be responsible for the widening.

Impact 4.10-5	Implementation of the Proposed Project (Tier 2 and 3 events) could cause existing operations at study intersections and freeway segments to worsen from acceptable to unacceptable levels.
Applicable Policies and Regulations	<i>City of Dixon General Plan Policy VI.E.1. Northeast Quadrant Specific Plan-Hearing Draft Policy 4.9.2.1</i>
Significance before Mitigation	Phase 1: Significant Phases 1 and 2: Significant
Applicable NQSP Mitigation Measures	None
Mitigation Measures	Phase 1: 4.10-5 Phases 1 and 2: 4.10-5
Significance after Mitigation	Phase 1: Significant and Unavoidable Phases 1 and 2: Significant and Unavoidable

Phase 1

With the addition of traffic from Phase 1 associated with a Tier 2 event (a live concert with 15,000 attendees was analyzed), the following intersections and freeway segments would worsen from acceptable to unacceptable levels:

Impacted Intersections with Phase 1 (Tier 2 event)

- North First Street/Dorset Drive (Saturday and Sunday post-event peak hours)
- North First Street/West A Street (Sunday post-event peak hour)
- I-80 WB Ramps/Pedrick Road (Saturday pre-event peak hour)
- I-80 EB Ramps/Pedrick Road (all analysis periods)
- I-80 EB Ramps/North First Street (all analysis periods)
- Pedrick Road/Dixon Downs Parkway (Saturday pre-event peak hour)

Impacted Freeway Segments with Phase 1 (Tier 2 event)

- I-80 EB between Pedrick Road and Kidwell Road (Saturday and Sunday post-event peak hours)
- I-80 WB between Currey Road and Pitt School Road (Sunday post-event peak hour)
- I-80 WB between Kidwell Road and Pedrick Road (Saturday pre-event peak hour)
- I-80/Currey Road WB loop on-ramp merge area (Sunday post-event peak hour)
- I-80/Pedrick Road EB on-ramp merge area (Saturday and Sunday post-event peak hours)
- I-80/Pedrick Road WB off-ramp diverge area (Saturday pre-event and Sunday post-event peak hours)

Tier 3 events would likely have impacts that are greater in duration (i.e., hours of congestion), severity, and geographic extent than Tier 2 events. As noted previously, the type of event and the type of off-site parking arrangement would strongly influence the duration, severity, and location of impacts. This would be a *significant impact*.

Phases 1 and 2

With the addition of traffic from Phase 1 during a Tier 2 event along with Phase 2, the following intersections (in addition to those listed above) would worsen from acceptable to unacceptable levels:

- North First Street/Dorset Drive (Saturday and Sunday post-event peak hours)
- North First Street/West A Street (Sunday post-event peak hour)

- I-80 WB Ramps/Pedrick Road (Saturday pre-event peak hour)
- I-80 EB Ramps/Pedrick Road (all analysis periods)
- I-80 EB Ramps/North First Street (all analysis periods)
- Pedrick Road/Dixon Downs Parkway (Saturday pre-event peak hour)
- I-80 EB between Pedrick Road and Kidwell Road (Saturday and Sunday post-event peak hours)
- I-80 WB between Currey Road and Pitt School Road (Sunday post-event peak hour)
- I-80 WB between Kidwell Road and Pedrick Road (Saturday pre-event peak hour)
- I-80/Currey Road WB loop on-ramp merge area (Sunday post-event peak hour)
- I-80/Pedrick Road EB on-ramp merge area (Saturday and Sunday post-event peak hours)
- I-80/Pedrick Road WB off-ramp diverge area (Saturday pre-event and Sunday post-event peak hours)
- Dorset Drive/Walmart Entry (all analysis periods)
- Vaughn Road/Dixon Downs Parkway (Saturday post-event peak hour)

The addition of Phase 2 traffic would further exacerbate operations at the I-80 facilities identified as having impacts under Phase 1. However, no new segments of I-80 would be impacted. This would be considered a *significant impact*.

Mitigation Measures

Mitigation measures recommended for Impacts 4.10-1 through 4.10-3 (for Phases 1 and 2) would require reconstruction of the I-80/Pedrick Road interchange, construction of auxiliary lanes on I-80 east of Pedrick Road, and widening of Pedrick Road to six lanes between I-80 and Dixon Downs Parkway. These improvements would provide a substantial increase in capacity over the existing roadway system.

Table 4.10-27 displays expected traffic operations at the I-80/Pedrick Road interchange with the recommended improvements under “existing plus Phases 1 and 2” conditions during a Tier 2 event. During the Saturday pre-Tier 2 event peak hour, the I-80 WB Ramps/Pedrick Road intersection and I-80 WB off-ramp at Pedrick Road would each operate at LOS F.

However, operations at the I-80 WB Ramps/Pedrick Road intersection would degrade to LOS F during the peak hour prior to the start of a Tier 2 event. Operations at each ramp terminal intersection would be acceptable during the post-Tier 2 Event peak hour primarily due to the bottleneck created by the Pedrick Road/Dixon Downs Parkway intersection, which would operate at LOS F.

Mitigation Measure 4.10-5 requires the applicant to prepare a Traffic Management Plan for Tier 2 and 3 events. Although implementation of a TMP would lessen the severity of the identified impacts, it is

unlikely that all impacted roadways and intersections would be improved to acceptable levels. Therefore, this impact would remain *significant and unavoidable*.

4.10-5 (Phases 1 and 2)

Develop (to the satisfaction of the City of Dixon Engineering Department) and implement a Traffic Management Plan (TMP) for Tier 2 and 3 Events.

The purpose of the TMP is to maximize the flow of traffic into and out of the project site, while minimizing inconveniences (e.g., vehicle queues, excessive delays, etc.) to adjacent businesses. The TMP would consist of a number of elements that are intended to manage the travel demand including:

- Use of traffic control personnel to direct motorists into and out of the project site accesses;
- Use of temporary traffic control devices such as cones and barricades to maximize the use of all project accesses;
- Use of shoulders and/or bike lanes to create an additional lane on Dorset Drive and Dixon Downs Parkway.
- Flexibility with respect to event start and end times so as to not coincide with peak travel on adjacent streets and I-80.
- Use of law enforcement officers to control traffic at the I-80/Pedrick Road and I-80/North First Street interchanges.
- Use of special traffic signal timing settings to handle peak traffic volumes.
- Use of changeable message signs, websites, and other media to advise motorists of preferred routes for accessing the site.

It is unlikely that the use “reversible lanes” would be feasible on Dixon Downs Parkway and Dorset Drive because surrounding businesses would need both inbound and outbound access during Tier 2 and 3 events.

Because reconstruction of the I-80/Pedrick Road interchange and addition of auxiliary lanes on I-80 are not recommended with Phase 1, Tier 2 and 3 events that are held when Phase 1, but not Phase 2, is constructed would require greater levels of off-site traffic management personnel.

Impact 4.10-6	Implementation of the Proposed Project could reduce safety on Pedrick Road by creating potential conflicts with farm equipment and vehicles.	
Applicable Policies and Regulations	None	
Significance before Mitigation	Phase 1:	Potentially Significant
	Phases 1 and 2:	Potentially Significant
Applicable NQSP Mitigation Measures	None	
Mitigation Measures	Phase 1:	4.10-6(a) and (b)
	Phases 1 and 2:	4.10-6(a) and (b)
Significance after Mitigation	Phase 1:	Significant and Unavoidable
	Phases 1 and 2:	Significant and Unavoidable

Phases 1 and 2

The Proposed Project, both Phase 1 as well as Phase 2, would result in a substantial increase in traffic on Pedrick Road between I-80 and Dixon Downs Parkway and a modest increase in traffic on Pedrick Road south of Dixon Downs Parkway. Since Pedrick Road is currently used by farm vehicles and equipment, the introduction of project traffic would increase the potential for conflicts, thereby reducing safety and resulting in a *potentially significant impact*.

Mitigation Measures

Although Mitigation Measures 4.10-6(a) and (b) would decrease the potential for conflicts between incompatible users of Pedrick Road, it is likely that some conflicts would still occur. As such, this impact would remain *significant and unavoidable*.

4.10-6(a) (Phases 1 and 2)

Install signs on Pedrick Road to advise motorists of farming vehicles and equipment.

This measure recommends the placement of Farming Equipment Symbol signs (Sign W62 in the *Traffic Manual*) on Pedrick Road to advise motorists that Pedrick Road is also used by farming vehicles.

4.10-6(b) (Phases 1 and 2)

Increase the enforcement of traffic laws on Pedrick Road.

The *California Vehicle Code – CVC* (Department of Motor Vehicles, 2004) contains various laws and provisions that relate to the physical and operating characteristics of farming vehicles and equipment (referred to as “Implements of Husbandry” in the CVC) that use Pedrick Road. The CVC provisions relate to driver licensing, the need for flashing amber lights on certain types of vehicles, and other considerations. Enhanced enforcement would increase compliance with the applicable laws and provisions in the CVC.

Impact 4.10-7	Implementation of the Proposed Project could fail to provide adequate facilities to encourage the use of public transit.	
Applicable Policies and Regulations	<i>City of Dixon General Plan Policies VI.E.2 and VI.E.3, Northeast Quadrant Specific Plan-Hearing Draft Policies 4.9.4.1 and 4.9.4.2</i>	
Significance before Mitigation	Phase 1:	Less than Significant
	Phases 1 and 2:	Less than Significant
Applicable NQSP Mitigation Measures	None	
Mitigation Measures	Phase 1:	None required
	Phases 1 and 2:	None required
Significance after Mitigation	Phase 1:	Less than Significant
	Phases 1 and 2:	Less than Significant

Phases 1 and 2

The Proposed Project, both Phase 1 and Phase 2, would provide on-site facilities (e.g., bus turnouts, shelters) to accommodate transit use. *City of Dixon General Plan Policy VI.E.3* encourages the City to continue to develop and expand the local transit system. It also requires that new development be designed to maximize the use of public transit where feasible. Since the Proposed Project is consistent with this policy, this is considered a *less-than-significant impact*.

Mitigation Measures

None required.

Impact 4.10-8	Implementation of the Proposed Project could increase the number of vehicles that cross at-grade railroad tracks.	
Applicable Policies and Regulations	<i>City of Dixon General Plan Policy VI.E.7</i>	
Significance before Mitigation	Phase 1:	Significant
	Phases 1 and 2:	Significant
Applicable NQSP Mitigation Measures	None	
Mitigation Measures	Phase 1:	None available
	Phases 1 and 2:	None available
Significance after Mitigation	Phase 1:	Significant and Unavoidable
	Phases 1 and 2:	Significant and Unavoidable

Phases 1 and 2

Implementation of the Proposed Project, including both Phase 1 and Phase 2, would add traffic to the segments of North First Street, Pedrick Road, Vaughn Road, and West A Street, which have at-grade crossings of the UPRR tracks. The amount of traffic added by the project at the crossings on Pedrick Road and Vaughn Road does not constitute a significant increase in traffic. This is evidenced by operations at the Vaughn Road/Pedrick Road intersection, which would continue to operate at LOS A

even with the addition of Phase 1 and 2 of the project. However, the amount of traffic added by Phase 1 and 2 to the at-grade crossing of North First Street just north of Downtown Dixon (370 vehicles during the weekday p.m. peak hour and 680 vehicles during the Sunday p.m. peak hour with a 100 percent race attendance) is considered a significant increase.

Policy VI.E.7 of the *City of Dixon General Plan* states that “the City shall pursue the construction of grade separated rail crossings within the Planning area”. The General Plan map shows the general locations of grade-separations to be at Pedrick Road north of Vaughn Road, Jackson Street in downtown, and Parkway Boulevard in the south part of the City. The *Railroad Grade Separation / New Alignment Feasibility Study and Financing Plan – Phase III Implementation Plan* (Parsons Brinckerhoff, January 1995) evaluated two preferred alternatives for the grade-separation of the North First Street at-grade crossing. The estimated cost of the alternatives ranged from \$8 to \$9 million (in 1994 dollars).

The City of Dixon *Five-Year Capital Improvement Program* (Dixon, March 2004) shows \$9.5 million earmarked for the Parkway Boulevard Grade-Separation. The North First Street Grade-Separation is not included in the Capital Improvement Program (CIP). Construction of this grade-separation would be a regional improvement that would be of City-wide benefit. If the City chooses to prioritize this improvement, it can include it in subsequent updates of its CIP. Therefore, the impact is considered *significant and unavoidable*.

Mitigation Measures

None available.

Impact 4.10-9	Implementation of the Proposed Project could interfere with planned bicycle and pedestrian facilities in the NQSP area.	
Applicable Policies and Regulations	<i>City of Dixon General Plan Policy VI.E.2 and VI.E.4, Northeast Quadrant Specific Plan-Hearing Draft Policy 4.9.3.1</i>	
Significance before Mitigation	Phase 1:	Significant
	Phases 1 and 2:	Significant
Applicable NQSP Mitigation Measures	None	
Mitigation Measures	Phase 1:	4.10-9
	Phases 1 and 2:	4.10-9
Significance after Mitigation	Phase 1:	Less than Significant
	Phases 1 and 2:	Less than Significant

Phases 1 and 2

The *Solano Countywide Bicycle Plan* (2001) shows a planned Class II (on-street lane with designated signing and striping) bicycle lane along Pedrick Road. The Proposed Project does not indicate that Class II bike lanes and sidewalks would be constructed on Dixon Downs Parkway or Pedrick Road along the project’s frontage. This is inconsistent with the *Solano Countywide Bicycle Plan* and policies in the NQSP of providing Class II bike lanes and sidewalks on all arterial streets in the plan area. This is considered a **significant impact**. However, the Proposed Project, both Phase 1 and Phase 2, does include bike racks, sidewalks, and pedestrian promenades within the project site.

Mitigation Measures

Compliance with Mitigation Measure 4.10-9(a) would bring the project into conformance with the planned bicycle system in the *Solano Countywide Bicycle Plan* and bicycle and pedestrian policies of the NQSP reducing the impact to a *less-than-significant level*.

4.10-9 (Phases 1 and 2)

Construct Class II bicycle lanes and sidewalks along Pedrick Road (from I-80 south to Vaughn Road), Dixon Downs Parkway (from Vaughn Road to Pedrick Road), and the extension of Dorset Drive to Dixon Downs Parkway.

Impact 4.10-10	Implementation of the Proposed Project could provide inadequate emergency access.	
Applicable Policies and Regulations	None	
Significance before Mitigation	Phase 1:	Less than Significant
	Phases 1 and 2:	Less than Significant
Applicable NQSP Mitigation Measures	None	
Mitigation Measures	Phase 1:	None required
	Phases 1 and 2:	None required
Significance after Mitigation	Phase 1:	Less than Significant
	Phases 1 and 2:	Less than Significant

Phases 1 and 2

Phase 1 of the project would have an ambulance and medical staff on-site during live horseracing events. However, police and fire vehicles would need to travel to the site to respond to a non-medical emergency. These trips would likely use North First Street (to Dorset Drive) or Vaughn Road (to Dixon Downs Parkway) to access the project site. As discussed in Chapter 3, Project Description, safety planning would be conducted including pre-arrangements with hospitals and local clinics. In addition, the project applicant shall be required to prepare a Master Fire, Safety and Security Plan to address public safety issues, subject to approval of the City's police and fire chiefs. Because the Proposed Project would not interfere with emergency access, this is considered a *less-than-significant impact*.

Mitigation Measures

None required.

Impact 4.10-11	Implementation of the Proposed Project could provide an inadequate number of on-site parking spaces.	
Applicable Policies and Regulations	None	
Significance before Mitigation	Phase 1:	Less than Significant
	Phases 1 and 2:	Significant
Applicable NQSP Mitigation Measures	None	
Mitigation Measures	Phase 1:	None required
	Phases 1 and 2:	4.10-11(a) and (b)
Significance after Mitigation	Phase 1:	Less than Significant
	Phases 1 and 2:	Significant and Unavoidable

Phase 1

An adequate supply of parking would be provided to accommodate a Tier 1 event under Phase 1. Although a Tier 2 event would require vehicles to be parked in adjacent gravel or dirt lots, adequate space is available within the project vicinity to accommodate their parking requirements. Therefore, this is considered a *less-than-significant impact*.

Phases 1 and 2

Phases 1 and 2 with a sold-out Tier 1 event would require 8,600 parking spaces. Phases 1 and 2 with a Tier 2 event would require a supply of approximately 10,400 spaces to accommodate the entire parking demand on-site. Since the Proposed Project does not specify a specific amount of parking to be provided, this is considered a *significant impact*.

Mitigation Measures

Compliance with Mitigation Measure 4.10-11(a) would reduce impacts associated with parking to a *less-than-significant level* for Tier 1 events. However, parking impacts during Tier 2 and 3 events would remain *significant and unavoidable* even with implementation of Mitigation Measure 4.10-11(b).

4.10-11(a) (Phases 1 and 2)

Provide 8,600 parking spaces on-site to accommodate Phases 1 and 2 with a sold-out Tier 1 event, or alternatively demonstrate to the satisfaction of the City of Dixon that the proposed supply of parking (to be determined when the Phase 2 site plan is developed) is adequate to accommodate the parking demand of Phases 1 and 2 with a Tier 1 event.

This mitigation would provide for an adequate supply of parking on-site to accommodate Phases 1 and 2 of the project during a sold-out Tier 1 event.

4.10-11(b) (Phases 1 and 2)

Develop, to the satisfaction of the City of Dixon, a parking management plan that accommodates a Tier 2 event with Phases 1 and 2 of the project.

The parking management plan would identify potential off-site parking locations, use of shuttles, logical pedestrian connections, and other items associated with a Tier 2 event. However, because this mitigation would not provide an adequate supply of parking on-site to accommodate a Tier 2 or 3 event, this impact would remain *significant and unavoidable*.

Impact 4.10-12	Implementation of the Proposed Project could provide insufficient access and internal circulation.	
Applicable Policies and Regulations	None	
Significance before Mitigation	Phase 1:	Potentially Significant
	Phases 1 and 2:	Potentially Significant
Applicable NQSP Mitigation Measures	None	
Mitigation Measures	Phase 1:	4.10-12
	Phases 1 and 2:	4.10-12
Significance after Mitigation	Phase 1:	Less than Significant
	Phases 1 and 2:	Less than Significant

Phases 1 and 2

Figures 4.10-8 and 4.10-9 display the recommended access to the project site from Dixon Downs Parkway with Phase 1 only and Phases 1 and 2, respectively. The analysis of the recommended access indicates that all facilities would operate acceptably under “Existing Plus Project” conditions. However, additional through lanes are required on Dixon Downs Parkway by 2015 to accommodate buildout of the Proposed Project and the remainder of the NQSP. This is considered a *potentially significant impact*.

Mitigation Measures

Compliance with Mitigation Measure 4.10-12 would ensure that the Proposed Project does not preclude the ability for the City to ultimately widen Dixon Downs Parkway to six lanes. This would reduce this impact to a *less-than-significant level*.

4.10-12 (Phases 1 and 2)

Dedicate right-of-way along the project’s frontage of Dixon Downs Parkway between Pedrick Road and Dorset Drive to allow for the future construction of a third northbound/eastbound travel lane.

This mitigation would ensure that the third northbound-to-eastbound travel lane along Dixon Downs Parkway could be constructed. A similar requirement of the property owner(s) on the other side of Dixon Downs Parkway is recommended to ensure that the third westbound-to-southbound travel lane

can also be constructed. Since the widening is not necessary under “Existing Plus Project” conditions, it is considered a cumulative improvement necessary to accommodate buildout of the remainder of the NQSP.

Cumulative Impacts and Mitigation Measures

Please see the discussion under Methods of Analysis for a summary of the cumulative context for traffic.

Impact 4.10-13	Implementation of the Proposed Project could exacerbate cumulatively unacceptable operations at study intersections.	
Applicable Policies and Regulations	<i>City of Dixon General Plan Policy VI.E.1., Northeast Quadrant Specific Plan-Hearing Draft Policy 4.9.2.1</i>	
Significance before Mitigation	Phase 1:	Significant
	Phases 1 and 2:	Significant
Applicable NQSP Mitigation Measures	None	
Mitigation Measures	Phase 1:	4.10-13
	Phases 1 and 2:	4.10-13
Significance after Mitigation	Phase 1:	Significant and Unavoidable
	Phases 1 and 2:	Significant and Unavoidable

Phase 1

With the addition of traffic from Phase 1 (Tier 1 event with 55 percent attendance), cumulatively unacceptable operations would be exacerbated at the following intersections (assuming no mitigation measures are in place) during the weekday p.m. peak hour:

- North First Street/Dorset Drive
- North First Street/Vaughn Road
- North First Street/West A Street
- I-80 EB Ramps/North First Street
- I-80 WB Ramps/North First Street
- I-80 EB Ramps/Pedrick Road
- I-80 WB Ramps/Pedrick Road

As discussed on page 4.10-52, all of these intersections would operate at LOS F under cumulative conditions.

Phases 1 and 2

With the addition of traffic from Phases 1 (Tier 1 event with 55 percent attendance) and 2, cumulatively unacceptable operations would be exacerbated at the following intersections (in addition to those listed above) during the weekday p.m. peak hour:

- Dorset Drive/Walmart Entry
- North First Street/Industrial Way

Operations at the Dixon Downs Parkway/Vaughn Road and Dixon Downs Parkway/Pedrick Road intersections would also be at unacceptable levels under 2015 conditions with Phase 1 of the project resulting in a ***cumulatively considerable significant impact***.

Mitigation Measures

Mitigation Measure 4.10-13 requires the project to pay its fair share cost toward future improvements to impacted intersections. However, the City's CIP does not currently include these improvements. Furthermore, it is uncertain whether these improvements could be fully funded if they were added to the City's CIP. Therefore, this impact is considered *significant and unavoidable*.

4.10-13 (Phases 1 and 2)

Pay fair share cost of the following future improvements:

- *Reconstruction of I-80/North First Street/Currey Road interchange,*
- *Widening of North First Street from four to six lanes from I-80 to south of Vaughn Road,*
- *Widening of Dorset Drive from four to six lanes from North First Street to east of Kids Way / Walmart signalized access,*
- *Construction of Vaughn Road/Pedrick Road Connector,*
- *Widening of Dixon Downs Parkway from four to six lanes from Dorset Drive to Pedrick Road,*
- *Widening of Pedrick Road from two to four lanes from south of Dixon Downs Parkway to Vaughn Road, and*
- *Widening of Vaughn Road from two to four lanes from North First Street to Pedrick Road.*

The cumulative improvements recommended for North First Street, Vaughn Road, Pedrick Road, the Vaughn Road/Pedrick Road connector, and the two I-80 interchanges are consistent with the circulation system recommended for the area in the *Northeast Quadrant Specific Plan Draft EIR*.

“Ultimate” improvements have not been identified for the Pedrick Road and North First Street/Currey Road interchanges as part of this study. Such improvements would be determined in consultation with Caltrans during the Project Study Report/Project Report (PSR/PR) process.

The calculation of the Proposed Project’s fair share cost toward the above improvements should consider the following roadway improvements to be constructed by the project, but also used by other properties in the NQSP area:

- Construction of Dixon Downs Parkway as a four-lane arterial between Pedrick Road and Vaughn Road (Phase 1);
- Extension of Dorset Drive as a four-lane arterial to Dixon Downs Parkway (Phase 1);
- Signalization and minor widening improvements at the I-80/Pedrick Road and I-80/North First Street/Currey Road interchanges (Phase 1);
- Widening of Pedrick Road from two to four lanes between Dixon Downs Parkway and I-80 (Phase 1);
- Installation of traffic signals at the Dorset Drive/Dixon Downs Parkway and Pedrick Road/Dixon Downs Parkway intersections (Phase 1);
- Reconstruction of the I-80/Pedrick Road interchange including auxiliary lanes on I-80 (Phase 2);
- Widening of Pedrick Road to six lanes between Dixon Downs Parkway and I-80 (Phase 2); and
- Minor improvements to the North First Street/Dorset Drive intersection (Phase 2).

Impact 4.10-14	Implementation of the Proposed Project, in conjunction with other cumulative development, could exacerbate unacceptable operations on Interstate 80.	
Applicable Policies and Regulations	Caltrans standards	
Significance before Mitigation	Phase 1:	Significant
	Phases 1 and 2:	Significant
Applicable NQSP Mitigation Measures	None	
Mitigation Measures	Phase 1:	None available
	Phases 1 and 2:	None available
Significance after Mitigation	Phase 1:	Significant and Unavoidable
	Phases 1 and 2:	Significant and Unavoidable

Phase 1

Phase 1 (Tier 1 event) of the project would cause a 2.5 percent or greater increase in the cumulative weekday p.m. peak hour traffic volume on eastbound I-80 east of Pedrick Road. An increase of

2.5 percent or greater would also occur in the westbound direction of I-80 west of North First Street. This is considered a *cumulatively considerable significant impact*.

Phases 1 and 2

The addition of traffic from Phase 2 would exacerbate operations at the impacted segments (identified under Phase 1) of I-80. Phase 2 traffic would also cause a 2.5 percent or greater increase in the cumulative weekday p.m. peak hour traffic volume on eastbound I-80 west of North First Street and westbound I-80 east of Pedrick Road. This is considered a *cumulatively considerable significant impact*.

Mitigation Measures

Phase 1 would result in an approximate 8 percent increase in the cumulative p.m. peak hour level of traffic in both directions of I-80 between Pedrick Road and Kidwell Road (the project adds 1,122 trips to the cumulative background traffic volume of 13,530 vehicles). With Phase 2, the project's contribution rises to 19 percent. However, Mitigation Measure 4.10-3(b) recommends the construction of auxiliary lanes on I-80 east of Pedrick Road. The widening of this segment of I-80 from six to eight lanes would provide an approximate 33 percent increase in capacity, which exceeds the project's traffic contribution of 8 percent with Phase 1 and 19 percent with Phases 1 and 2. There would be no impacts on the segment of I-80 between Kidwell Road and SR 113, because this segment of I-80 is already eight lanes wide. Therefore, Mitigation Measure 4.10-3(b) would mitigate the project's cumulative traffic impact on I-80 east of Pedrick Road to a *less-than-significant level*.

No improvements to I-80 west of North First Street are proposed as mitigation for project impacts. Furthermore, a mechanism is not in place that would enable the project to make a fair share contribution toward the cost of widening (or other improvements to) I-80. Therefore, the cumulative impact to I-80 west of North First Street would remain *significant and unavoidable*.

None available.

