

3.0 Future Conditions in the Study Area

This section presents the expected future traffic conditions on SR-9, SR-17, and SR-59. Horrocks Engineers projected future conditions using the Dixie Metropolitan Planning Organization traffic model for sections of SR-9 and SR-17 that are in Hurricane and La Verkin. For rural sections of all three highways, Horrocks used historical UDOT traffic counts and expected population and household growth to develop the 2035 estimates.

This section discusses expected future conditions and does not present solutions to potential challenges associated with those conditions. Solutions to issues or problem areas identified in this section are addressed in Section 5.0, Project Identification and Recommendations, which begins on page 75 of this report.

3.1 SR-9

According to Horrocks’ projections, traffic on SR-9 is expected to nearly double by the planning year 2035. This increase will mostly be due to the growth of towns and cities along the highway. Other traffic generators, such as Zion National Park, are not expected to significantly affect future traffic volumes on SR-9 because growth in park visits and visitor-related traffic is not expected to significantly increase in the future.

Table 3-1 and Figure 5 above, Annual Average Daily Traffic (AADT) for 2006 and 2035, show the future projected (2035) traffic volumes and levels of service for SR-9. These levels were calculated using the Highway Capacity Manual 2000 methodologies for the same segments that were analyzed under the existing conditions discussion in Section 2.2.1, SR-9 Conditions.

Table 3-1. Future (2035) Levels of Service on SR-9

Begin MP	End MP	2035 AADT	Number of Lanes	2035 LOS
12.5	17.8	6,000	3	B
17.8	26.8	6,000	2	B
26.8	29.8	5,382	2	A
29.8	32.7	5,427	2	A

Source: Horrocks Engineers 2007

As shown in Table 3-1 above, future levels of service along SR-9 are projected to be free-flowing or reasonably free-flowing. As with the existing conditions analysis, this information represents segments of open highway that do not have multiple lanes, climbing or passing lanes, or towns with intersections and



multiple access points. The results in Table 3-1 show that, generally, SR-9 can remain a two-lane highway and maintain acceptable levels of service into the future. The table does not address improvements in towns and cities, such as turn lanes or center median two-way left-turn lanes, or other open highway improvements, such as passing and truck climbing lanes, that would help maintain acceptable levels of service. Some of these improvements are included in the recommended project list presented in Section 5.0, Project Identification and Recommendations.

The number of large (heavy) vehicles and trucks on SR-9 is not expected to change between now and 2035. Because the highway will remain a primary entrance to Zion National Park, heavy vehicle traffic will continue to be dominated by RVs, buses, and local delivery trucks with only a few semi-tractor trailers. The growth in the number of trucks will be greatly outpaced by the increase in the number of passenger vehicles, so the percentage of traditional truck traffic on SR-9 will decrease in the future.

As noted in Section 2.2.1, SR-9 Conditions, the seasonal variation on SR-9 is heavily influenced by tourist and recreation-related traffic. As the towns along the highway continue to grow, the seasonal variation in traffic on SR-9 will become slightly less variable because more of the annual traffic will be trips by residents and regular highway users instead of visitors.

3.2 SR-17

By 2035, traffic on SR-17 is expected to increase by 250% to 400% depending on the location along the highway. This increase will mostly be due to the growth of La Verkin and Toquerville, but traffic volumes will be influenced by growth along the nearby SR-9 and SR-59 highways since residents of those areas will use SR-17 to access I-15.

Table 3-2 below and Figure 5 above, Annual Average Daily Traffic (AADT) for 2006 and 2035, show the future projected (2035) traffic volumes and levels of service for SR-17. These levels were calculated using the Highway Capacity Manual 2000 methodologies for the same segments that were analyzed under the existing conditions discussion in Section 2.2.2, SR-17 Conditions.

Table 3-2. Future (2035) Levels of Service on SR-17

Begin MP	End MP	2035 AADT	Number of Lanes	2035 LOS
0.0	1.0	12,000	3	C
1.0	4.6	16,000	2	D
4.6	6.0	16,000	2	D

Source: Horrocks Engineers 2007

As shown in Table 3-2 above, future levels of service along SR-17 are projected to significantly decrease (worsen) without improvements. The results show that, generally, SR-17 needs to be widened and improved to a four-lane road (two lanes in each direction) to maintain LOS C or better. If the Toquerville bypass is constructed and it becomes the new route for SR-17, then the existing roadway would not need to be widened and would remain a two-lane, local road with an acceptable level of service. The expected need to widen SR-17 through the center of Toquerville is the main reason that town representatives and residents favor the bypass route; by building the bypass, town planners could preserve a lower-speed route through the heart of town.

The number of large (heavy) vehicles and trucks on SR-17 is expected to increase in the future, mostly as a result of the projected increase in truck traffic on SR-59 and the fact that SR-17 is a major route for regional truck traffic. The growth in the number of trucks will be greatly outpaced by the increase in the number of passenger vehicles (such that truck percentages on SR-17 will decrease in the future), but truck percentages on SR-17 are still expected to remain much higher than on other similar highways.

As discussed in Section 2.2.2, SR-17 Conditions, there is some seasonal variation in traffic on SR-17. However, as La Verkin and Toquerville continue to grow, the seasonal variation in traffic on SR-17 will become slightly less variable because more of the annual traffic will be trips by residents and regular highway users instead of visitors.



3.3 SR-59

According to Horrocks’ projections, 2035 traffic volumes on SR-59 are expected to increase by 200% to 300% depending on the location along the highway. This increase will mostly be due to the growth of individual towns along the highway (Hildale, Apple Valley, and Hurricane). Increases in traffic volumes on SR-59 will also be influenced by regional traffic increases.

Table 3-3 and Figure 5 above, Annual Average Daily Traffic (AADT) for 2006 and 2035, show the future projected (2035) traffic volumes and levels of service for SR-59. These levels were calculated using the Highway Capacity Manual 2000 methodologies for the same segments that were analyzed under the existing conditions discussion in Section 2.2.3, SR-59 Conditions.

Table 3-3. Future (2035) Levels of Service on SR-59

Begin MP	End MP	2035 AADT	Number of Lanes	2035 LOS
0.0	8.1	8,921	2	D
8.1	19.5	6,254	2	C
19.5	22.5	14,000	2	E

Source: Horrocks Engineers 2007

As shown in Table 3-3 above, future levels of service along SR-59 are projected to decrease (worsen) without improvements. As with the existing conditions analysis, this information represents segments of open highway that do not have multiple lanes, climbing or passing lanes, or towns with intersections and multiple access points. The information in Table 3-3 shows that, generally, SR-59 could remain a two-lane highway in 2035 with the exception of the last short segment into Hurricane. The dramatic increase in traffic volumes and worsening of level of service in this segment are primarily due to expected development along the “Hurricane Bench” area east and southeast of Hurricane. Widening this section of SR-59 from two to four lanes would be challenging and costly due to constraints related to terrain. One potential way to address the issue is by constructing an alternate or replacement route that connects the Hurricane Bench to the city of Hurricane. Resolving this issue is very important to local residents.

In addition to the needed widening or alternate route connection near Hurricane, there are other areas through Apple Valley and Hildale where improvements such as turn lanes or center median two-way left-turn lanes will be needed to maintain acceptable levels of service. SR-59 would also benefit from the addition of dedicated passing lanes in some segments to increase safety and roadway

efficiency. Some of these improvements are included in the recommended project list presented in Section 5.0, Project Identification and Recommendations.

The number of large (heavy) vehicles and trucks on SR-59 is expected to increase between now and 2035. This growth would occur because the highway is a major regional truck route. However, as with the other highways, the growth in the number of trucks will be outpaced by the expected increase in the number of passenger vehicles, so the truck percentages on SR-59 will decrease in the future. However, truck percentages on SR-59 are expected to remain high given the highway's regional importance.

As noted in Section 2.2.3, SR-59 Conditions, there is some seasonal variation in SR-59 traffic volumes. The seasonal variation in traffic on SR-59 is expected to remain similar to current levels because this highway is a regional road and because growth in the towns along the highway is not expected to be as concentrated as that along SR-9 or SR-17. Local growth in the area is expected to influence seasonal fluctuations because more of the annual traffic will be residents and regular highway users instead of regional traffic.