CHAPTER 5: INTERCHANGE AREA MANAGEMENT PLAN

A range of facility improvements for providing adequate operation of the proposed interchange and surrounding transportation system were developed and evaluated. This chapter summarizes the facility improvements considered, including cost estimates, and provides prioritization for the implementation of these improvements through recommended short, medium, and long-range actions.

Transportation Facility Improvements

Transportation facility improvements are aimed at improving capacity and safety through measures such as traffic controls, turn lanes, enhanced street connectivity, and system management techniques. The transportation facility improvements considered are described below.

Traffic Controls & Geometric Improvements

In Chapter 4 a future deficiencies analysis identified three study area intersections that were projected to not meet adopted mobility standards. These locations included the intersections on US 97 @ O'Neil Highway, US 97 @ Kingwood Avenue, and Maple Avenue @ 9th Street. Improvements needed to restore operations in accordance with mobility standards at each location are described below.

US 97 @ O'Neil Highway

This intersection was shown to be not meeting performance standards under existing and future conditions with the stop-controlled approaches, operating at level of service F and volume-to-capacity ratios greater than 1.00. While the volumes of traffic attempting to leave the stop-controlled approaches are fairly low, the high volumes of traffic on US 97 do not provide sufficient gaps in traffic to serve them.

The installation of a traffic signal would mitigate operations to be well within the adopted standards, but the volumes of traffic on the stop-controlled approaches appear to be too low to meet the required warrants for such an installation. In addition, given the isolated, rural nature of the surrounding area and the high travel speeds on US 97, the installation of a traffic signal at this intersection may conflict with driver expectations and could create a safety hazard.

Apart from constructing a traffic signal, three other improvement options evaluated included:

- Implementing turn restrictions (Right-in/Right-out);
- Offsetting the intersection approaches; and
- Construction of an overpass.

With a majority of the traffic on the stop-controlled approaches being associated with right turn movements, a potential improvement may be to restrict turns (e.g. right-in and right-out movements only). Converting this intersection to right-in/right-out only would mitigate the failing operations and improve highway safety by eliminating the minor street through and left turn movements, which will experience very high delays in 2025. The existence of the right-in/right-out approaches would still fail to meet the access management spacing standard given the proximity to the new interchange, but would have a lesser degree of conflict with the interchange ramp movements than the existing configuration. However, such an improvement would result in a diversion of approximately 130 vehicles during the peak hour to other routes because several movements would no longer be available at this intersection. It would

also further degrade the east-west connectivity in the Redmond area, which is already limited. Another constraint to the implementation of this improvement option is the existence of developed properties whose only means of access is the highway. To restrict movement at US 97 and O'Neil Way to would make it extremely difficult to reasonably access the property with out the development of a local system of streets that could provide an alternate means of access to the properties.

Another alternative would be to offset the east and west approaches. This type of improvement does not mitigate the left turn movements, but would convert the through movements to right turns, which typically require fewer gaps on the highway and can often operate more safely. To convert through movements to right turns, the west approach must be located to the north of the east approach. In this case, Cinder Butte may make moving Pershall Way to the north infeasible and the proximity to the proposed interchange may make moving O'Neil Highway to the south undesirable. As this alternative would require the construction of new roadways, it would be more expensive to implement than the first alternative that restricts turn movements. It should also be noted that even with this improvement in place, the westbound approach is still expected to operate at a volume-to-capacity ratio of 0.67, which is greater than the maximum volume-to-capacity ratio of 0.60 allowed by the Highway Design Manual.1 Therefore, a design exception would be required before this alternative could be implemented.

Constructing an overpass would enhance east-west connectivity and would move in the direction of meeting ODOT's adopted access management spacing standards. However, this would be the most expensive alternative of the three considered and would only serve some of the smaller movements at this intersection, while cutting off the higher-volume ones. Like the first alternative that restricted turns, this alternative would also result in a diversion of traffic, but to a greater degree, with approximately 325 vehicles during the peak hour seeking new routes.

Considering these three improvement options, and the limitations associated with each, a phased approach to improvements at US 97 and O'Neil Highway was selected. The initial improvement is to restrict turning movements to right-in and right-out as warranted as an interim improvement after local connectivity has been enhanced to provide parallel routes to US 97 (see the Local Connectivity Plan), with the long-range improvement being the construction of an overpass. At the time the US 97 at O'Neil Highway intersection is restricted to right-in and right-out movements only, Canal Boulevard from O'Neil Highway to the new North Redmond interchange is to be evaluated for rerouting the O'Neil Highway to provide better access between US 97 and O'Neil Highway.

As previously noted, approximately 325 vehicles would be required to divert to other routes during the peak hour when the overpass is constructed, as no highway access would be allowed. Under the conservative assumption that all diverting traffic would reroute through the new North Redmond interchange via Canal Boulevard on the east side and 10th Street and Quince Avenue on the west side, the capacity analysis for study area intersections was revisited for the year 2025. It was found that all study intersections would continue to operate within adopted performance standards even with the turning movements removed from the US 97 at O'Neil Highway intersection.

As a note, while the analysis of the O'Neil Highway at Canal Boulevard intersection indicated operations would continue to be adequate in 2025 with traffic diverted in response to the construction of an overpass at US 97, the existing lane configurations and traffic controls may not be ideal to serve the new demand. With no direct access to US 97 from the existing intersection with O'Neil Highway, the dominant traffic movements are anticipated to be associated with the westbound left turns and northbound right turns, as vehicles divert to the new North Redmond interchange. Using typical applications of stop-sign traffic controls, where opposing approaches are required to stop, one of the two high-volume movements would

[1] *Highway Design Manual*, Oregon Department of Transportation, Table 10-1, 2003.

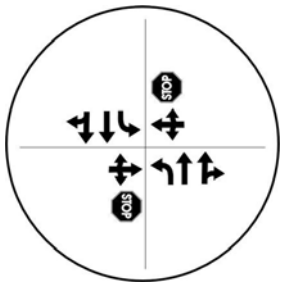
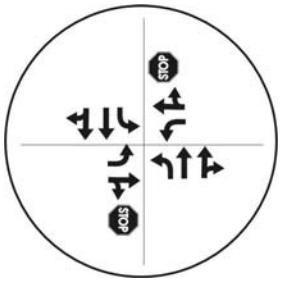
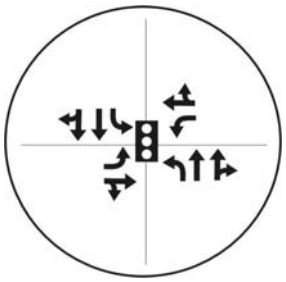
be required to stop with right of way being given to movements maintaining very low volumes. This configuration would not only be an inefficient way to serve traffic, but may conflict with expectations when O'Neil Highway is rerouted over Canal Boulevard to the south.

To improve intersection efficiency, stop-control could be shifted to the north and west approaches only. However, because that configuration is atypical and may be confusing to some motorists, other options for consideration should include roadway realignments to provide continuous, uncontrolled movements along the new O'Neil Highway approaches or the construction of a roundabout.

US 97 @ Kingwood Avenue

Despite decreased traffic volumes on US 97 (6th Street) resulting from the construction of the Reroute and the addition of separate left turn lanes on the east and west approaches, this intersection will not meet the City's preferred performance standard requiring operation of level of service "E" or better. A traffic signal, which has been identified in the City CIP as a future improvement at this intersection, will mitigate the failing minor street left turn movements and restore operations such that City performance standards are met. Because projected minor street volumes are low, the timing of the need for this signal is uncertain and may depend on the actual pattern of development in the area of the intersection. Therefore, the construction of the separate left turn lanes on the Kingwood Avenue approaches is to be implemented in the near term, with signalization being considered as a long-range improvement that would be implemented when warranted. Figure 5.1 provides a comparison of the 2025 no-build and mitigated scenarios.

Figure 5.1: US 97 at Kingwood Ave. Operational Improvements (2025)

No Build	Construction of Turn Lanes	Turn Lanes & Signalization
		
v/c = >1.0	v/c = 0.72	v/c = 0.53
LOS = F	LOS = F	LOS = B

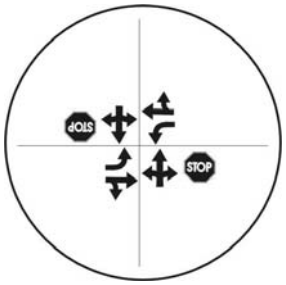
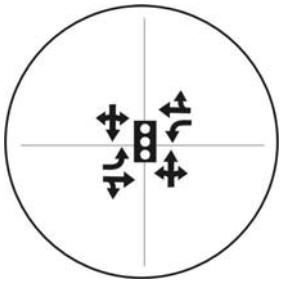
Maple Avenue @ 9th Street

The intersection on Maple Avenue at 9th Street was found to be operating at a level of service F and not meeting the City's performance standard by 2025. The failing future operations are largely due to the increased volumes on Maple Avenue resulting from the street extension from Negus Way to 19th Street.

Because Maple Avenue is classified as a minor arterial, it was assumed that future capacity improvements at this intersection would include the construction of separate left turn lanes on Maple Avenue, which would be consistent with the 3-lane standard cross-section shown in the City of Redmond Standards and

Specifications.2 However, even with this improvement in place, it was found that signalization would still be required to achieve acceptable operation. Because of the horizontal curve to the north on 9th/10th Street, sight distance for the northbound left turn traffic may be limited, requiring protected phasing. Figure 5.2 below, which compares the operations at this intersection in 2025 under the no-build (with CIP improvements in place) and mitigated conditions, shows the above described mitigation will provide operation consistent with the City's adopted performance standard requiring operation at a level of service E or better.

Figure 5.2: Maple Avenue at 9th Street Operational Improvements (2025)

No Build (w/CIP Improvements)		Proposed Mitigation	
			
v/c =	>1.0	v/c =	0.84
LOS =	F	LOS =	C

The City of Redmond CIP includes a project at this intersection for "capacity improvements" with estimated funding at approximately $35,000. New traffic signal installations typically cost around $175,000 (not including interconnect with adjacent signals, if needed), making the currently programmed project under-funded to construct all needed improvements. Therefore, an additional project must be added to the City CIP to construct a traffic signal at this intersection when warranted. The installation of a roundabout was not investigated due to the limited right-of-way available in this area.

Because the future deficiencies analysis found all other study area intersections to operate within adopted mobility standards in the year 2025, assuming planned projects in the City CIP and State STIP were in place, no other capacity improvements were considered.

Traffic Signal Plan

A future traffic signal plan was created to guide the orderly installation of traffic signals in the IAMP area, especially along US 97 (6th Street) and Canal Boulevard north of the proposed interchange, where poor progression of traffic due to inadequate signal spacing could impact long-term safety and operations at the proposed interchange ramp terminals.

Figure 5.3 displays a map of future traffic signal locations within the IAMP area to be used in evaluating potential conflicts with future proposals for traffic signals on the study area streets. This map identifies the locations of all currently planned traffic signals (there are currently no existing traffic signals) in the IAMP area, along with a future signal on US 97 (6th Street) between Maple Avenue and Quince Avenue

[2] *Standards and Specifications*, City of Redmond Public Works Department, April 2003.

that is anticipated to be constructed soon by an adjacent development and the recommended signal at the intersection of Maple Avenue and 9th Street described above.

A new signal on Canal Boulevard near the City of Redmond urban growth boundary has also been identified, as this would be the approximate location of the nearest traffic signal that could be constructed north of the interchange according to the recommended access spacing for this area. This signal would provide needed access to the lands surrounding the east side of the new interchange through future public streets (a future King Way alignment), as shown in the Local Connectivity Plan.

In evaluating future signal proposals, a traffic engineering investigation will need to be conducted to ensure that the proposed signal does not negatively impact the signals illustrated in Figure 5.3. A distance of at least 1,320 feet between new signals is to be required wherever feasible. Furthermore, no additional traffic signals will be constructed along the US 97 (6th Street)/Canal Boulevard corridor between Kingwood Avenue and the proposed King Way extension. In establishing the timing plans for all future signals, priority shall be given to the efficient operation of the interchange ramp terminals and the ability of the interchange crossroads to carry traffic away from the interchange.

Local Connectivity Plan

The future deficiencies analysis in Chapter 4 highlighted three areas where local connectivity was in need of improvement, including:

- Improving east-west connectivity;
- Providing access to lands surrounding the US 97 interchange; and
- Reducing access points to US 97 to the north of the interchange.

In response to these needs, a local connectivity plan was developed that builds on existing and planned streets in the IAMP area. This plan not only improves overall connectivity throughout the northern end of the City, but provides the ability eliminate direct approaches to US 97 and consolidate approaches to Canal Boulevard, while maintaining accessibility to individual properties in the corridor. Figure 5.4 displays the local connectivity plan, with key elements described below.

East-west connectivity will be enhanced through the proposed construction of:

- An overpass at the existing US 97 intersection with O'Neil Highway,
- A new street (Oak Avenue) from the intersection of Canyon Drive at 10th Street to Canal Boulevard. This new street would include a signalized intersection on US 97 (6th Street) between the intersections at Quince Avenue and Maple Avenue.
- A realigned of King Way, to include an overcrossing of the BNSF railroad, approximately ¼ mile north of the interchange
- Additional east-west streets are shown north of the proposed interchange, but no additional crossings of US 97 have been proposed as they would require costly grade separation.

To prevent access directly to the interchange crossroads within the access management spacing standards for interchange areas, new streets have been included to provide alternate access to properties in the immediate vicinity of the interchange. To the south of the interchange, these new streets would enable the first access point to US 97 (6th Street) to be limited to Quince Avenue, which is approximately 1,000 feet from the nearest interchange ramp terminal. To the north, the first access point would be limited to a new public street intersection near the current urban growth boundary (approximately 1,500 feet from the

nearest interchange ramp terminal), with an optional right-in/right-out approach on the west side of Canal Boulevard approximately 800 feet from the nearest interchange ramp terminal.

In recognition of the access management spacing standards for interchanges that would prohibit direct access to US 97 north of the proposed interchange within the IAMP area, a system of new public streets will be provided so that properties adjacent to US 97 can be accessed through City and County roads. While some of these roads may be constructed by land developers over time, it is recommended that the construction of select routes (identified in Figure 5.4 as "high-priority" streets) be prioritized so that they are in place within the next 5 to 10 years, which may require them to be incorporated into a capital improvement program.

All proposed streets shown in Figure 5.4 that are located within the urban growth boundary would be constructed to City of Redmond standards, with streets outside of the urban growth boundary being constructed to Deschutes County standards. Because of the relatively short segment lengths, it is assumed that all proposed streets would either be classified as collectors or local streets. According to the City of Redmond's Typical Minimum Street Cross Section Dimensions3, 5-foot wide sidewalks would be constructed as part of all collectors or local streets, with separate bike lanes only being constructed for major collectors and industrial collectors. Deschutes County's design standards4 do not include sidewalks for any road classifications, but allow for optional 4-foot wide bikeways on rural collectors.

Access Management Plan

A key element of the IAMP related to the long-range preservation of operational efficiency and safety of the proposed interchange is the management of access to the interchange crossroads (US 97/6th Street and Canal Boulevard), as well as to the mainline (US 97 and the Reroute). Because access points introduce a number of potential vehicular conflicts on a roadway and are frequently the causes of slowing or stopping vehicles, they can significantly degrade the flow of traffic and reduce the efficiency of the transportation system. By reducing the overall number of access points and providing greater separation between them, the impacts of these conflicts can be minimized.

Further Public Coordination Recommended
The access management actions in the IAMP are based on current property configurations and ownerships. Should property boundaries change in the future through consolidation or other land use action, the access management plan will be modified through agreement by the City of Redmond, Deschutes County, and ODOT, where such modifications will move in the direction of the adopted access management spacing standards contained in this plan. Additional access points will not be allowed where they would result from future land partitions or subdivisions. The actions listed in this plan shall not prevent the reconstruction of approaches as necessary to meet City, County, or ODOT standard design.

Implementation of the access management plan will occur incrementally over a long period of time because:

- Some affected properties maintain infrastructure (e.g. buildings and internal roadways) that was established based on prior approvals of access locations to the subject roadways, and
- Some elements of the plan depend on the presence of new local public streets that can not be constructed until funds are made available.

[3] *Standards and Specifications*, City of Redmond Public Works Department, April 2003.
[4] *Deschutes County Transportation System Plan*, 1998.

- The access management recommendations in this plan have been prioritized and categorized into short-range, medium-range, and long-range actions based on the constraints associated with their implementation. Short-range actions are to be executed during the construction of the interchange and the medium and long-range actions are to be executed as needed funds become available or as opportunities arise during property development/redevelopment.

To provide a basis for decision-making during the development of the access management plan, an access management strategy was established. The objectives of this plan are listed below.

1. Restrict all access from abutting properties to the interchange and interchange ramps.

2. Meet, or move in the direction of meeting, ODOT's adopted access management spacing standards for access to interchange crossroads.
    a. For US 97 (6th Street) from the southbound interchange ramp terminal to a distance of 1,320 feet to the south, the spacing standards from OAR 734-051-0125(2), Table 8 and Figure 4 apply, which would restrict all access for the full distance of 1,320 feet.
    b. For Canal Boulevard from the northbound interchange ramp terminal to a distance of 1,320 feet to the north, the spacing standards from OAR 734-051-0125(2), Table 7 and Figure 3 apply, which would restrict all access for the full distance of 1,320 feet, with a right-in/right-out access allowed on the southbound side of Canal Boulevard no closer than 990 feet from the interchange ramp terminal.

3. Meet, or move in the direction of meeting, the City of Redmond's adopted access management guidelines on US 97 (6th Street) from a point 1,320 feet from the southbound interchange ramp terminal to Kingwood Avenue (southern boundary of IAMP area). This would require access spacing of at least 800 feet between adjacent driveways and/or streets on the same side of the roadway and ½-mile between adjacent intersections.

4. In line with considering routing the O'Neil Highway down Canal Boulevard to the new North Redmond interchange, meet, or move in the direction of meeting ODOT's adopted access management spacing standards for access to District Highways.
    a. For the segment of roadway from a point 1,320 feet north of the northbound interchange ramp terminal to the urban growth boundary, the spacing standards for urban areas from OAR 734-051-0125(2), Table 4 would apply, which would require a minimum separation of 500 feet (assuming a posted speed of 40 or 45 mph) between approaches on the same side of the highway.
    b. For the segment of roadway outside the urban growth boundary, the spacing standards for rural areas from OAR 734-051-0125(2), Table 4 would apply, which would require a minimum separation of 500 feet (assuming a posted speed of 40 or 45 mph) between approaches on the same side of the highway.

5. Meet ODOT's adopted access management spacing standards for interchange mainlines.
    a. For US 97 between the interchange and O'Neil Highway (northern boundary of IAMP area), the spacing standards from OAR 734-051-0125(2), Table 8 and Figure 4 apply, which would restrict all access to US 97.
    b. For the US 97 Reroute between the interchange and Kingwood Avenue (southern boundary of IAMP area), the spacing standards from OAR 734-051-0125(2), Table 8 and Figure 4 apply, which would restrict all access to US 97. An exception to these standards may be allowed for a right-in/right-out approach at Larch Avenue, pending approval of a deviation by ODOT.

Figure 5.3: Traffic Signal Plan North Redmond IAMP

Figure 5.4: Local Street Connectivity Plan

6. Purchase all abutting property access rights to US 97 (6th Street) and Canal Boulevard within 1,320 feet of the proposed interchange ramp terminals. Where accesses are allowed to remain within this area under the short-range action plan, access rights should be acquired with a temporary allowance to retain access until such time as reasonable alternate access becomes available.

7. In attempting to meet access management spacing standards, exceptions may be allowed to take advantage of existing property boundaries and existing or planned public streets, and to accommodate environmental constraints.

8. Replace private approaches with public streets, where feasible, to provide consolidated access to multiple properties.

9. Ensure all properties impacted by the project are provided reasonable access to the transportation system.

10. Align approaches on opposite sides of roadways where feasible to reduce turning conflicts.

11. Short-range actions shall accommodate existing development needs, unless property is to be purchased by ODOT.

Using this strategy, an action plan for each approach to the interchange mainline and crossroad was developed, as shown below in Table 5.A. The short-range actions will be implemented during the construction of the interchange. The medium-range actions are to be completed within 5 to 10 years, while the long-range actions are to be implemented over the 20-year planning period as funding becomes available or as opportunities arise through property development. The action plan has also been illustrated in Figure 5.5 to aid in the interpretation of the actions in Table 5.A.
Detailed information regarding approach and property characteristics, as well as existing access rights, has been compiled into inventory lists. These databases will provide needed information to ODOT staff in determining the appropriate procedure for executing the recommended actions in Table 5.1. The inventory lists, included in the appendix, have been separated into an existing approach physical inventory (Appendix 3) and an existing property access rights list (Appendix 4).

Table 5.A: North Redmond Access Actions

Approach #	Short-Range Action	Medium-Range Action	Long-Range Action
1	(Kingwood Ave.) No action.	Same as Short Range.	Same as Short Range.
2	No action.	Same as Short Range.	Same as Short Range.
3	No action.	Same as Short Range.	Same as Short Range.
4	No action.	Same as Short Range. Approach to remain in current location, aligned opposite Larch Ave.	Same as Short Range. Approach to remain in current location, aligned opposite Larch Ave.
5	No action.	Same as Short Range.	Same as Short Range.
6	Close approach upon property redevelopment. Future access to be taken from new shared	Same as Short Range.	Same as Short Range.

Approach #	Short-Range Action	Medium-Range Action	Long-Range Action
	approach between tax lots 101 and 200 (see approach 7).		
7	Upon property redevelopment, approach to be relocated on or near property line between tax lots 101 and 200 to create a shared access between these properties. Easements shall be recorded to accommodate shared access. New approach shall align opposite the new combined approach between tax lots 1100 and 1000 (see approaches 72 and 73).	Same as Short Range.	Same as Short Range.
8	Close approach upon property redevelopment. Future access to be taken from Maple Ave. and/or shared approach with tax lot 200.	Same as Short Range.	Same as Short Range.
9	(Maple Ave.) No action.	Same as Short Range.	Same as Short Range.
10	No action.	Same as Short Range.	Same as Short Range.
11	Upon property redevelopment, approach to be relocated to abut northern property line of tax lot 500.	Same as Short Range.	Same as Short Range.
12	Close approach upon property redevelopment. Future access to be taken from approach 13.	Same as Short Range.	Same as Short Range.
13	No action.	Same as Short Range.	Same as Short Range.
14	Close approach upon property redevelopment. Future access to be taken from approach 15.	Same as Short Range.	Same as Short Range.
15	No action.	Same as Short Range.	Same as Short Range.
16	No action.	Acquire all access rights to US 97, with provision for temporary access to remain until such time as reasonable alternate access is made available.	Close approach at such time as reasonable alternate access becomes available (e.g. through construction of public roads or establishment of easements).
17	No action.	Acquire all access rights to US 97, with provision for temporary access to	Close approach at such time as reasonable alternate access becomes available (e.g. through construction of public roads or establishment of

Approach #	Short-Range Action	Medium-Range Action	Long-Range Action
		remain until such time as reasonable alternate access is made available.	easements).
18	No action.	Construct new public street.	Construct new public street.
19	No action.	Acquire all access rights to US 97, with provision for temporary access to remain until such time as reasonable alternate access is made available.	Close approach at such time as reasonable alternate access becomes available (e.g. through construction of public roads or establishment of easements).
20	No action.	Same as Short Range.	Approach to be relocated to abut northern property line of tax lot 600. Joint access to tax lots 600 and 500 shall be provided through easements. Access rights shall be modified to provide for joint access as described.
21	No action.	Acquire all access rights to US 97, with provision for temporary access to remain until such time as reasonable alternate access is made available.	Close approach at such time as reasonable alternate access becomes available (e.g. through construction of public roads or establishment of easements).
22	No action.	Acquire all access rights to US 97, with provision for temporary access to remain until such time as reasonable alternate access is made available.	Close approach at such time as reasonable alternate access becomes available (e.g. through construction of public roads or establishment of easements).
23	No action.	Close access. Alternate access available to Quince Ave.	Close access. Alternate access available to Quince Ave.
24	(Quince Ave.) No action.	Same as Short Range.	Same as Short Range.
25	(Spruce Ave.) Close access.	Same as Short Range.	Same as Short Range.
26	Close access. Alternate access available to Spruce & Teak.	Same as Short Range.	Same as Short Range.
27	Remain as right-in/right-out	Acquire all access	Close approach at such time as

Approach #	Short-Range Action	Medium-Range Action	Long-Range Action
	only, following construction of median barrier.	rights to US 97, with provision for temporary access to remain until such time as reasonable alternate access is made available.	reasonable alternate access becomes available (e.g. through construction of public roads or establishment of easements).
28	Remain as right-in/right-out only, following construction of median barrier.	Acquire all access rights to US 97, with provision for temporary access to remain until such time as reasonable alternate access is made available.	Close approach at such time as reasonable alternate access becomes available (e.g. through construction of public roads or establishment of easements).
29	No action.	Acquire all access rights to US 97, with provision for temporary access to remain until such time as reasonable alternate access is made available.	Close approach at such time as reasonable alternate access becomes available (e.g. through construction of public roads or establishment of easements).
30	No action.	Acquire all access rights to US 97, with provision for temporary access to remain until such time as reasonable alternate access is made available.	Close approach at such time as reasonable alternate access becomes available (e.g. through construction of public roads or establishment of easements).
31	No action.	Close access. Alternate access available via other approaches.	Close access. Alternate access available via other approaches.
32	No action.	Acquire all access rights to US 97, with provision for temporary access to remain until such time as reasonable alternate access is made available.	Close approach at such time as reasonable alternate access becomes available (e.g. through construction of public roads or establishment of easements).
33	No action.	Close access. Alternate access available via other approaches.	Close access. Alternate access available via other approaches.

Approach #	Short-Range Action	Medium-Range Action	Long-Range Action
34	No action.	Acquire all access rights to US 97, with provision for temporary access to remain until such time as reasonable alternate access is made available.	Close approach at such time as reasonable alternate access becomes available (e.g. through construction of public roads or establishment of easements).
35	No action.	Close access. Alternate access available via other approaches.	Close access. Alternate access available via other approaches.
36	(Pershall Way) No action.	Restrict turning movements to allow only right-ins and right-outs.	Close access and construct overpass of US 97.
37	(O'Neil Highway) No action.	Restrict turning movements to allow only right-ins and right-outs.	Close access and construct overpass of US 97.
38	No action.	Close access. Alternate access available via other approaches.	Close access. Alternate access available via other approaches.
39	No action.	Acquire all access rights to US 97, with provision for temporary access to remain until such time as reasonable alternate access is made available.	Close approach at such time as reasonable alternate access becomes available (e.g. through construction of public roads or establishment of easements).
40	No action.	Close access. Alternate access available via other approaches.	Close access. Alternate access available via other approaches.
41	No action.	Acquire all access rights to US 97, with provision for temporary access to remain until such time as reasonable alternate access is made available.	Close approach at such time as reasonable alternate access becomes available (e.g. through construction of public roads or establishment of easements).
42	No action.	Acquire all access rights to US 97, with provision for	Close approach at such time as reasonable alternate access becomes available (e.g. through construction of

Approach #	Short-Range Action	Medium-Range Action	Long-Range Action
		temporary access to remain until such time as reasonable alternate access is made available.	public roads or establishment of easements).
43	No action.	Close access. Alternate access available via other approaches.	Close access. Alternate access available via other approaches.
44	No action.	Close access. Alternate access available via other approaches.	Close access. Alternate access available via other approaches.
45	Close access. Alternate access available to Canal Blvd.	Same as Short Range.	Same as Short Range.
46	Close access. Alternate access available to Canal Blvd.	Same as Short Range.	Same as Short Range.
47	Close access. Alternate access available to Canal Blvd.	Same as Short Range.	Same as Short Range.
48	Close access. Alternate access available to Canal Blvd.	Same as Short Range.	Same as Short Range.
49	Close access. Retain all access rights to remainder property.	Same as Short Range.	Same as Short Range.
50	Close access. Retain all access rights to remainder property.	Same as Short Range.	Same as Short Range.
51	Close access. Retain all access rights to remainder property.	Same as Short Range.	Same as Short Range.
52	Close access. Retain all access rights to remainder property.	Same as Short Range.	Same as Short Range.
53	Close access. Retain all access rights to remainder property.	Same as Short Range.	Same as Short Range.
54	Close access. Alternate access available via other approaches.	Same as Short Range.	Same as Short Range.
55	Close access. Alternate access available via other approaches.	Same as Short Range.	Same as Short Range.

Approach #	Short-Range Action	Medium-Range Action	Long-Range Action
56	Close access. Alternate access available via other approaches.	Same as Short Range.	Same as Short Range.
57	Close access and relocate near southern property line.	Acquire all access rights to US 97, with provision for temporary access to remain until such time as reasonable alternate access is made available.	Close approach at such time as reasonable alternate access becomes available (e.g. through construction of public roads or establishment of easements).
58	No action.	Close access. Alternate access available via other approaches.	Close access. Alternate access available via other approaches.
59	No action.	Construct new public street (Quince Ave. extension).	Construct new public street (Quince Ave. extension).
60	No action.	Close access upon construction of new public street (approach 59).	Close access upon construction of new public street (approach 59).
61	No action.	Close access. Alternate access available via other approaches.	Close access. Alternate access available via other approaches.
62	No action.	Acquire all access rights to US 97, with provision for temporary access to remain until such time as reasonable alternate access is made available.	Close approach at such time as reasonable alternate access becomes available (e.g. through construction of public roads or establishment of easements).
63	No action.	Acquire all access rights to US 97, with provision for temporary access to remain until such time as reasonable alternate access is made available.	Close approach at such time as reasonable alternate access becomes available (e.g. through construction of public roads or establishment of easements).
64	No action.	Approach to be relocated approximately 75 feet to the south to align with an opposing	Approach to be relocated approximately 75 feet to the south to align with an opposing approach on the west side of US 97 (6th Street), constructed on tax lot 600 and abutting

Approach #	Short-Range Action	Medium-Range Action	Long-Range Action
		approach on the west side of US 97 (6th Street), constructed on tax lot 600 and abutting the northern property line (see approach #19). Approach shall provide joint access to tax lots 600 & 1000, with easements provided accordingly.	the northern property line (see approach #19). Approach shall provide joint access to tax lots 600 & 1000, with easements provided accordingly.
65	No action.	Acquire all access rights to US 97, with provision for temporary access to remain until such time as reasonable alternate access is made available.	Close approach at such time as reasonable alternate access becomes available (e.g. through construction of public roads or establishment of easements).
66	No action.	Acquire all access rights to US 97, with provision for temporary access to remain until such time as reasonable alternate access is made available.	Close approach at such time as reasonable alternate access becomes available (e.g. through construction of public roads or establishment of easements).
67	No action.	Construct new public street.	Construct new public street.
68	No action.	Close access upon construction of new public street (approach 67).	Close access upon construction of new public street (approach 67).
69	Access to be restricted to right-in/right-out when property redevelops.	Same as Short Range.	Same as Short Range.
70	No action.	Same as Short Range.	Access to be closed when approach 66 is converted to right-in/right-out.
71	Close approach upon property redevelopment. Access to be taken from internal streets to the east.	Same as Short Range.	Same as Short Range.
72	Close approach upon property redevelopment. Access to be taken from internal streets to the east.		Same as Short Range.

Approach #	Short-Range Action	Medium-Range Action	Long-Range Action
73	(Maple Ave.) No action.	Same as Short Range.	Same as Short Range.
74	Close approach upon property redevelopment. Future access to be taken from Maple Ave.	Same as Short Range.	Same as Short Range.
75	Upon property redevelopment, approach to be relocated on or near property line between tax lots 1100 and 1000 and combined with approach 73 to create a shared access between these properties. Easements shall be recorded to accommodate shared access. New approach shall align opposite the new combined approach between tax lots 101 and 200 (see approach 7). Future access to be taken from Maple Ave. and the shared access between tax lots 1100 and 1000.	Same as Short Range.	Same as Short Range.
76	Upon property redevelopment, approach to be relocated on or near property line between tax lots 1100 and 1000 and combined with approach 72 to create a shared access between these properties. Easements shall be recorded to accommodate shared access. New approach shall align opposite the new combined approach between tax lots 101 and 200 (see approach 7).	Same as Short Range.	Same as Short Range.
77	Close approach upon property redevelopment. Future access to be taken from new shared approach between tax lots 1100 and 1000 (see approaches 72 and 73).	Same as Short Range.	Same as Short Range.
78	Close approach upon property redevelopment. Future access to be taken from Larch Ave.	Same as Short Range.	Same as Short Range.
79	(Larch Ave.) No action.	Same as Short Range.	Same as Short Range.
80	Upon redevelopment, reconstruct approach to align	Same as Short Range.	Same as Short Range.

Approach #	Short-Range Action	Medium-Range Action	Long-Range Action
	opposite approach 3 to tax lot 400.		
81	Close approach upon redevelopment. Future access to be taken from approach 77.	Same as Short Range.	Same as Short Range.
82	Close approach upon property redevelopment. Future access to be taken from Kingwood Ave.	Same as Short Range.	Same as Short Range.
83	(Kingwood Ave.) No action.	Same as Short Range.	Same as Short Range.
84	Close access and restrict all access rights along Canal Blvd./US 97.	Prohibit direct access to tax lot 700 from Canal Blvd./US 97. Future access to be provided by new local streets.	Prohibit direct access to tax lot 700 from Canal Blvd./US 97. Future access to be provided by new local streets.
85	Close approach. Access to be provided from approach 86.	Future access to be provided by new public streets providing reasonable alternate access.	Future access to be provided by new public streets providing reasonable alternate access.
86	No action.	Same as Short Range.	Close approach upon construction of new public streets providing reasonable alternate access.
87	No action.	No action.	Close approach upon construction of new public streets providing reasonable alternate access.
88	No action.	Construct new public street.	Construct new public street.
89	Approach may remain upon property redevelopment. New approach may be relocated along property frontage, with minimum approach spacing of 500 feet provided between adjacent approaches.	Same as Short Range.	Same as Short Range.
90	No action.	Construct new public street.	Construct new public street.
91	Approach may remain upon property redevelopment. New approach shall be relocated along property frontage, aligned opposite the future public street approach (see approach 96).	Same as Short Range.	Same as Short Range.
92	Close approach upon property	Same as Short Range.	Same as Short Range.

Approach #	Short-Range Action	Medium-Range Action	Long-Range Action
	redevelopment.		
93	(O'Neil Highway) No action.	Same as Short Range.	Same as Short Range.
94	(O'Neil Highway) No action.	Same as Short Range.	Same as Short Range.
95	Close approach upon property redevelopment. Future access to be provided by new public streets providing reasonable alternate access(see approach 96).	Same as Short Range.	Same as Short Range.
96	No action.	Construct new public street.	Construct new public street.
97	Approach may remain upon property redevelopment. New approach may be relocated along property frontage, with minimum approach spacing of 500 feet provided between adjacent approaches.	Same as Short Range.	Same as Short Range.
98	No action.	Same as Short Range.	Close approach upon construction of new public streets providing reasonable alternate access.
99	No action.	Same as Short Range.	Close approach upon construction of new public streets providing reasonable alternate access.
100	No action.	Construct new public street.	Construct new public street.
101	No action.	Same as Short Range.	Close approach upon construction of new public streets providing reasonable alternate access.
102	No action.	Same as Short Range.	Close approach upon construction of new public streets providing reasonable alternate access.
103	Approach may remain upon property redevelopment. New approach may be relocated along property frontage, with minimum approach spacing of 500 feet provided between adjacent approaches.	Same as Short Range.	Same as Short Range.
104	Approach may remain upon property redevelopment. New approach may be relocated along property frontage, with minimum approach spacing of 500 feet provided between adjacent approaches.	Same as Short Range.	Same as Short Range.

Approach #	Short-Range Action	Medium-Range Action	Long-Range Action
105	Close approach upon property redevelopment. Future access to be taken from approach 106 or new public streets providing reasonable alternate access.	Same as Short Range.	Same as Short Range.
106	No action.	Same as Short Range.	Close approach upon construction of new public streets providing reasonable alternate access.
107	Close approach upon property redevelopment. Future access to be taken from approach 109 or new public streets providing reasonable alternate access.	Same as Short Range.	Same as Short Range.
108	No action.	Construct new public street (King Way realignment).	Construct new public street (King Way realignment).
109	No action.	Same as Short Range.	Close approach upon construction of new public streets providing reasonable alternate access.
110	No action.	Same as Short Range.	Close approach upon construction of new public streets providing reasonable alternate access.
111	No action.	Same as Short Range.	Close approach upon construction of new public streets providing reasonable alternate access.
112	No action.	Close approach. Access to be provided from approach 111 or new public streets providing reasonable alternate access.	Close approach. Access to be provided from approach 111 or new public streets providing reasonable alternate access.
113	No action.	Close approach upon construction of new public streets providing reasonable alternate access.	Close approach upon construction of new public streets providing reasonable alternate access.
114	No action.	Close approach upon construction of new public streets providing reasonable alternate access.	Close approach upon construction of new public streets providing reasonable alternate access.
115	Close approach. Access to be provided from approach 114.	Same as Short Range.	Same as Short Range.
116	(King Way realignment)	Close approach. King	Close approach. King Way to be

Approach #	Short-Range Action	Medium-Range Action	Long-Range Action
	Construct new public street.	Way to be realigned to a location approximately 950 feet to the north (approach 108).	realigned to a location approximately 950 feet to the north (approach 108).

Notes: Refer to Figure 5.5a through 5.5c for location of state highway approaches cited in the above table.

Land Use Alternatives

Land use alternatives focus on controlling potential traffic demand for transportation facilities through the implementation of management techniques such as modification of zoning ordinances or requiring transportation demand management plans. Alternatives considered are described below.

Potential Development Density & Trip Generation

The analysis of future traffic conditions in the IAMP area was based on forecasts provided by the Redmond Area travel demand model developed by the Oregon Department of Transportation. In recognition of the buildable lands inventory that was included in the recently completed City of Redmond Urbanization Study5, the intensity of development assumed for the IAMP area in the Redmond Area travel demand model was compared to the projected development capacity from the buildable lands inventory to determine the reasonable maximum amount of trip generation resulting from future development. The buildable lands inventory concluded that sufficient land was available to support an additional 1,133 employees over what was assumed in the travel demand model in the area roughly bounded by Maple Avenue, NW 10th Street, Spruce Avenue, and NE 9th Street. Using a regression analysis on the travel demand model, inbound and outbound trip rates per employee were calculated, with the results shown below in Table 5.B.

Table 5.B: Estimated Trip Rates per Employee from the Redmond Area Travel Demand Model

Employment Type	Inbound Trip Rate	Outbound Trip Rate
Retail	0.98	1.66
Other	0.11	0.24

Assuming that all lands between NW 10th Street and the Burlington Northern Santa Fe railroad would produce predominantly retail employees and that all lands east of the railroad would produce predominantly other types of employees, the additional trips that would be generated would be approximately 2,060. These trips were added to the transportation system in the IAMP area according to the locations of the associated transportation analysis zones affected and the projected distribution of traffic in the future.

[5] *City of Redmond Urbanization Study*, ECONorthwest and Angelo Eaton & Associates, Inc., June 2005.

Figure 5.5a: Long-Range Action Plan

Figure 5.5b: Long-Range Action Plan

Figure 5.5c: : Long-Range Action Plan

The capacity analysis of study area intersections was repeated under these new conditions to assess the impact of the higher trip generation potential, with the results shown in Table 5.3. It should be noted that the mitigation previously described for the intersections on US 97 at O'Neil Highway, US 97 at Kingwood Avenue, and Maple Ave at 9th Street that was needed under the original trip generation assumptions, was assumed to be in place under this scenario as well. At the intersection on US 97 at O'Neil Highway, the mitigation assumed included the long-range improvement to construct an overpass. In addition, the planned signal at the US 97/Quince Avenue intersection was found to be required under this scenario.

As shown in Table 5.C, all study intersections are able to accommodate the increased trip potential while operating within adopted performance standards, with the exception of the intersection on the US 97 Reroute at Larch Avenue (projected to fail by the year 2020). As this intersection is already planned to be limited to right-in/right-out movements only, there is little that can be done to mitigate operations. The recommended improvement would be to construct an acceleration lane in the southbound direction on the US 97 Reroute to allow a free right turn from Larch Avenue that would merge into mainline traffic. This movement was analyzed using the Highway Capacity Software6 for freeway merges and was found to operate well with a volume-to-capacity ratio of 0.42 and a level of service B. ODOT has developed criteria for the installation of acceleration lanes. A key component is access spacing. The installation of an acceleration lane will need to meet the spacing standards in ODOT's technical bulletin. However, it should be recognized that constructing an acceleration lane at this location could impact the ability to construct an interchange on the US 97 Reroute in the area of Evergreen Avenue and Highland Avenue, should it be desired in the future (approximately 6,000 feet of separation between Larch Avenue and Evergreen Avenue). Because of this, this improvement is not recommended. The City and ODOT close Larch if safety and operational problems develop as part of the annual review process outlined in the adopted MOU for the US 97 Redmond Reroute.

Another alternative would be to allow the intersection to operate as projected, under the assumption that the high delays for traffic waiting to enter the reroute from Larch Avenue would result in diversion of traffic to other routes experiencing less delay. To meet ODOT's adopted mobility standard, approximately 200 eastbound right turns would need to divert away from this intersection. By performing a sensitivity test of study intersections on potential diversion routes, it appears adequate capacity would be available to accommodate this traffic. However, even if traffic demand does self-regulate through a partial diversion to other routes, the drivers that continue to access the US 97 Reroute from Larch Avenue may be encouraged to accept smaller gaps in traffic than preferred when experiencing long delays. Because of this, this alternative is not recommended.

[6] *Highway Capacity Software*, McTrans Center, University of Florida, Gainesville, FL, 2003.

Table 5.C: 2025 Design Hour Intersection Operations with Worst Case Trip Generation

	Intersection	Volume-to-Capacity Ratio		Level of Service		Performance Standard Met?
		measured	required	measured	required	
ODOT Facilities – Volume-to-Capacity Ratio Determines Performance Standard						
S	US 97 / NB US 97 Reroute	0.46	0.85	B	E	Yes
S	US 97 / SB US 97 Reroute	0.44	0.85	A	E	Yes
U	US 97 Reroute / Larch Ave	>1.0 (EB)	0.80	F (EB)	E	No
U	O'Neil Hwy / Canal Blvd	0.51 (NB)	0.80	B (NB)	E	Yes
City of Redmond Facilities – Level of Service Determines Performance Standard						
S	US 97 / Quince Ave	0.79	-	D	E	Yes
S	US 97 / Wal-Mart Access	0.71	-	E	E	Yes
S	US 97 / Maple Ave	0.84	-	C	E	Yes
S	US 97 / Kingwood Ave	0.53	-	B	E	Yes
U	Canal Blvd / Kingwood Ave	0.43 (EB)	-	D (EB)	E	Yes
U	Canal Blvd / King Way	0.27 (NB)	-	B (WB)	E	Yes
U	Quince Ave / 10th St	0.56 (WB)	-	C (EB)	E	Yes
S	Maple Ave / 9th St	0.84	-	C	E	Yes
S	Maple Ave / 19th St	0.95	-	E	E	Yes
U	Kingwood Ave / 9th St	0.11 (NB)	-	B (WB)	E	Yes
U	Negus Way / 9th St	0.42 (NB)	-	C (NB)	E	Yes
Deschutes County Facilities – Level of Service Determines Performance Standard						
U	Yucca Ave / 17th St	0.08 (EB)	-	A (EB)	D	Yes
U	17th St / King Way	0.07 (EB)	-	A (EB)	D	Yes
U	Pershall Way /10th St	0.17 (NB)	-	A (NB)	D	Yes

Note: (XX) = critical movement
S = signalized intersection
U = unsignalized intersection

Expansion of the Redmond Urban Growth Boundary – Urban Reserve

The City of Redmond recently extended their Urban Growth Boundary (UGB) to include all properties north of its existing city boundary, west of US 97, to Pershall Way. Redmond also adopted an Urban Reserve Area (URA) that includes all land east of US 97 to O'Neil Way. In expanding its UGB, rather than annex and rezone the area being brought into the UGB for urban use, and having to do the TPR analysis for adequacy of the transportation system, Redmond opted to not annex the area and with the concurrence of Deschutes County had the UGB rezoned to a new Urban Holding Zone – 10 Acre Minimum (UH-10). This action first put a temporary hold on future development within the UGB until it was annexed and rezoned, and it also deferred the TPR analysis to a subsequent date. Redmond also adopted amendments to its development regulations requiring master plans be prepared for properties requesting annexation and rezoning to the City.

Consequently, by the City expanding its UGB without designating the urban zoning for the area and doing the required TPR analysis, a significant amount of land was added to the UGB that could, in the future, be annexed to the city and developed with urban intensity uses. And without a land use plan for

the area, it is impossible to determine the magnitude of this action on the proposed US 97 Redmond Reroute Interchange.

To address this unknown within the context of the IAMP, the City of Redmond is required to amend its development regulations to require master plans prepared for properties adjacent to US 97 show as an element of their plan no direct access to US97 (Appendix 7). In addition, for an area defined as the "Highway Area Plan", or HAP (Appendix 8), adjacent to US97, the City is to prepare an area plan (aka master plan) that will establish a land use plan along US 97 that based on traffic analysis of the plan will not result in the planned land use exceeding the capacity of the interchange during the plan period.

Policies, Rules, & Ordinances

As land develops to urban densities within the interchange area, compliance will be required with the access management and circulation plans developed through the IAMP process. As part of the adoption of the IAMP, a number of amendments will be made to the City of Redmond Comprehensive Plan, Transportation System Plan (TSP) and development codes to reflect the amendments contained in Appendix 7 and actions outlined in the Memorandum of Understanding (MOU) in Appendix 8. In brief, they are as follows:

Comprehensive Plan Chapter 14 (Urbanization) –

- *Master plans to be consistent with the Local Street Connectivity Plan (Figure 5.4),*
- *Property annexed to relinquish all direct access rights to the highway, and*
- *Incorporate access management strategy for US 97 (6th Street) and North Canal Boulevard.*

Transportation System Plan –

- *Identify phased improvement at US 97 and O'Neil Highway to include right-in/right-out and a grade separated overcrossing,*
- *Identify need for signals at US 97 (6th Street) and Kingwood Avenue, and NW Maple and 9th Street,*
- *Access spacing requirements for US 97 (6th Street) and North Canal Boulevard,*
- *Local Street connectivity (Figure 5.6) and access closures (Table 5.A and Figures 5.5a-5.5c), and*
- *Signal Plan for US 97 Business (6th Street) and North Canal Boulevard (Figure 5.3).*

Development Codes –

- *Master plans shall show direct access to local street, not the State highway, be consistent with the Local Street Connectivity Plan, and relinquish all direct access to the highway, and*
- *Adopt access management spacing standards for US 97 (6th Street) and North Canal Boulevard consistent with the Oregon Highway Plan for highways classified as "Statewide" and "District" within an urban area.*

Memorandum of Understanding

In moving the US 97 Reroute into the construction phase, it was determined that the original agreement between ODOT and the City needed to be revised to incorporate changes to the project, and consummate in an MOU their agreement on long-term transportation and land use issues as they relate to the US 97

Reroute. This agreement, No. 23704, has been incorporated into the IAMP by reference and is included as Appendix 8. In general the MOU between ODOT and the City of Redmond:

- *Identifies the US 97 Reroute, Phase 1, as the first phase of a long-term solution for US 97 through Redmond;*
- *Sets forth that US 97 through Redmond will be managed as an Expressway facility from the O'Neil Junction through the Reroute Phase 1, and future phases consistent with the recommendations of the US 97 Redmond Refinement Plan;*
- *Requires the City to adopt the Access Management Plan for the US 97 Reroute and all the recommendations contained in the IAMP including amendments to Redmond's comprehensive Plan, TSP, and development codes as enumerated above.*
- *For an area defined as the "Highway Area Plan", or HAP (Appendix 8), adjacent to US97, the City is to prepare an area plan (A.K.A master plan) that will establish a land use plan along US 97 that based on traffic analysis of the plan will not result in planned land use exceeding the capacity of the interchange during the plan period.*

Cost Estimates

Planning-level cost estimates for all recommended improvement alternatives were calculated to aid in the identification of needed funding. Cost estimates included the fundamental elements of roadway construction projects, such as the roadway structure, bridge structures, curb and sidewalk, earthwork, retaining walls, right of way, pavement removal, and traffic signals. The estimated costs are shown below in Table 5.D, with work sheets showing assumed unit costs for construction elements provided in the appendix. For the purposes of providing these estimates, it was assumed that 40% of the road-miles within the County and City would be classified as collectors, with the remaining 60% classified as local streets. All costs are in 2006 dollars and do not reflect the added cost of inflation. Note that the recommended installation of a traffic signal at the US 97/Kingwood Avenue intersection has not been included as it is already listed in the City's CIP to be constructed when warranted, with an estimated cost of $375,650. When considering needed funding to construct the identified improvements below, it should be recognized that local streets are typically constructed by land owners as development occurs.

Table 5.D: Planning-level cost estimates for recommended improvement alternatives

Alternative	Estimated Cost
US 97/O'Neil Highway	
Restrict turn movements to r-in/r-out	$225,000
Offset intersection approaches	$1.4 million
Construct overpass	$3.2 million
Maple Ave/9th St signalization*	$220,000
Expanded Public Street Network	
City collectors	$9.9 million
City local streets	$13.4 million
County collectors**	$13.4 million
County local streets***	$21.2 million

* Assumes intersection geometry will be improved through projects already planned in the City CIP.
** Includes $5.9 million in "High-Priority" Streets.
*** Includes $3.8 million in "High-Priority" Streets.

Alternative Evaluation and Prioritization

With improvement alternatives identified, an evaluation of their ability to achieve the project goals will be provided, followed by a prioritization of successful alternatives into short, medium, and long-range plans to guide implementation.

Alternative Evaluation

Using the objectives for the North Redmond IAMP outlined in Chapter 2, the alternatives proposed were evaluated to ensure the goals established at the outset of the project would be met. The objectives used included criteria related to public involvement, addressing local issues, provision of transportation improvement alternatives, conformity with statewide plans and policies, and inclusion of policies and implementing measures to preserve the functionality of the interchange. The results of this evaluation have been provided in the Appendix 6.

Prioritization of Improvements

The improvement alternatives recommended as part of the IAMP have been prioritized into short, medium, and long-range actions, as shown in Table 5.E, to provide guidance for future implementation and funding. Short-range actions represent immediate needs and are proposed to be implemented at the time of interchange construction. Medium-range actions represent improvements that are not required immediately, but should be given priority over improvements identified as long-range actions. Assuming all improvements are planned for construction within a 20-year period, medium-range actions should be considered for implementation within 5 to 10 years. Long-range actions typically represent improvements of lower priority or requiring higher levels of funding. These improvements should be planned for construction within 10 to 20 years. The improvements listed in Table 5.E have also been illustrated in a Transportation Improvements Map (Figure 5.6) for the IAMP area.

It should be recognized that this prioritization of projects is not intended to imply that projects of higher priority must be implemented before projects of lower priority. Should opportunities arise, through private land development or other means, to construct specific projects earlier than the estimated time frame provided by this list, those resources should be utilized.

Table 5.E: Transportation Improvement Prioritization

Short-Range Improvements
· Short-range actions from access management plan.
Medium-Range Improvements
· Construct "High-Priority" public streets according to adopted Local Connectivity Plan.
· US 97/O'Neil Highway intersection improvements (right-in/right-out restrictions).
· US 97 (6th St.)/Kingwood Ave.: Construct separate left turn lanes on Kingwood Ave. and install traffic signal.
· Maple Ave./9th St.: Construct separate left turn lanes on Maple Ave. and install traffic signal.
· Medium-range actions from access management plan.
Long-Range Improvements
· Construct remainder of new public streets according to adopted Local Connectivity Plan.
· Long-range actions from access management plan.
· US 97 (6th St.)/Quince Ave.: Construct separate left turn lanes on Quince Ave. and install traffic signal.
· US 97/O'Neil Highway intersection improvements (grade-separated crossing over US 97).
· King Way Realignment (grade-separated crossing over BNSF).

Note: Medium and long-range improvements could be constructed sooner than anticipated as opportunities arise through private property development or other means.

Figure 5.6: Transportation Improvements Map

Project Participants

Project Advisory Committee

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Alan Unger	City of Redmond Mayor
Dennis Luke	Deschutes County Board

Project Management Team

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Joel McCarroll	ODOT Region 4 Traffic Manager
Dan Serpico	ODOT Region 4 Traffic (Alternate)
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