

8 - Conclusions and Recommendations

Non-Construction Transportation Alternatives

Non-construction transportation alternatives address those actions that change how bridge capacity is utilized without adding more roadway capacity. These actions include expanded use of transit, carpooling, vanpooling, walking, bicycling, alternative work schedules, telecommuting, value pricing, and related activities. Aggressive expansion of these types of activities will be necessary, even with the construction of a new bridge, to keep the transportation system functioning. The percentage of commuters taking part in these activities instead of driving alone will need to more than double over existing rates. It is important to achieve the city of Salem's adopted goal that 25 percent of commuter trips be made by a mode other than driving alone. Specific recommendations for the expansion of these efforts follow, and they should be considered for implementation.

Transit

While it is recognized that transit, in and of itself, cannot prevent the future traffic congestion on the bridges, increased transit usage, when focused on peak-hour congestion and combined with other actions, can delay the need for additional bridges and make better use of the facilities already in place.

The following recommendations are for the SKATS Policy Committee and the Salem Area Mass Transit District to consider as they continue to develop operational and financial plans for transit service in the Salem-Keizer area.

1. Consider actions that will encourage increased ridership in the West Salem area. These could include, but are not limited to:
 - a. Developing more frequent service, as funding allows,
 - b. Restructuring or adding routes to make them more convenient,
 - c. Identifying and correcting physical barriers to the use of transit, such as locations where people may not feel safe walking to and waiting for the bus due to a lack of sidewalks; and
 - d. Providing some form of transit priority treatment such as a reversible HOV lane should a new bridge be built.
2. Continue to work with potential partners to provide reduced or no-fare transit passes, particularly during the peak hours.
3. Explore technology that may make transit more competitive with the car, such as signal pre-emption systems.

4. Explore the possibility of cooperating with outlying cities to provide express bus service into the Salem area.

Transportation Demand Management

The following Transportation Demand Management (TDM) program improvements are suggested to encourage greater participation from West Salem, Polk County, and Yamhill County residents that work in Salem-Keizer on the east side of the Willamette River.

1. Expand the level of support for the Regional Rideshare.
2. Expand the level of support for TDM Programs.
3. Increase the participation among state agencies and other employers in the existing Rideshare and TDM Programs.
4. Consider a TDM demonstration project (e.g., two to three years) to provide vanpool and/or express bus service between targeted Polk County communities and the downtown/Capitol Mall area, or other destinations.
5. Identify new commuter travel markets that could benefit from vanpool/buspool service.

Bicycles and Pedestrians

The following recommendations should be considered by the appropriate jurisdictions. Some of these recommendations will require further study and evaluation.

1. Complete the bicycle and pedestrian systems in West Salem.
2. Complete the planned conversion of the existing Union Street Railroad Bridge to a bicycle and pedestrian facility.
3. Provide a downtown shuttle and/or more frequent bus service to downtown Salem during peak commute times.
4. Provide a bike/pedestrian path connection between the Marion and Center Street bridges and/or a Union Street Bridge bike/pedestrian corridor and the new collector street - Marine Drive NW.

Pricing Strategies

Although pricing strategies have the potential to reduce peak-period traffic congestion on the Marion and Center Street bridges, it is recognized that the inherent problems with implementing these strategies on the existing bridge system make them unlikely at this time. However, pricing strategies should be re-addressed as part of the final design EIS for a new bridge facility.

Land Use Alternatives

In all of the land use alternatives being considered in the Salem Futures process, there will be more supporting facilities in West Salem, some of which will provide an employment or shopping alternative that does not require a resident to cross the river during peak-hour traffic. Over time, the implementation of any of the land use alternatives proposed in the Salem Futures

process may offer some opportunity for deferral, but not elimination, of the need for a third bridge.

Construction Alternatives Without a New Bridge

The Bridgehead Engineering Study identified several comparatively low cost, low impact improvements to the bridges. These improvements are currently being pursued. Other construction improvements that are of a smaller scale than building a new bridge, but more extensive than the BHES improvements, should also be studied. These include such concepts as adding a lane to the Marion Street Bridge, constructing a new off-ramp from the Marion Street Bridge to Glen Creek Road, or redesigning the existing bridge ramp system. These alternatives may provide substantial relief to the existing bridges but may also have significant impacts that need to be considered. These alternatives are beyond the scope of this evaluation but will be examined as the overall study process progresses further.

General Corridor Evaluations

A summary of the overall corridor rankings related to the identified issues is illustrated in **Figure 8-1** near the end of this chapter. An explanation of the technical ranking process is contained in **Appendix D**. A comparison matrix of the details of the performance of each corridor relative to the identified issues is presented in **Table 8-1** at the end of this chapter. A summary discussion of the evaluation for each corridor follows.

No Build

In the no-build alternative, the existing Center and Marion Street bridges remain the only means to cross the Willamette River and connect east and West Salem within the Salem-Keizer urban area. Even with the bridge approach improvements recommended in the BHES, the direct impacts of a no-build alternative would be lengthened periods of both a.m. and p.m. peak-hour traffic, increased travel times, slower transit service, greater traffic congestion at the on and off ramps of the existing bridges, and an increase in both severity and number of over-capacity locations on the connecting infrastructure in both West Salem and the downtown core.

With the anticipated growth in the Salem-Keizer urban area, a no-build alternative is not perceived to be acceptable over the longer term. However, the Salem-Keizer community may take certain alternative actions, discussed previously, to defer the construction of a third bridge. In the meantime, every effort should be made to identify an appropriate location for a third bridge and begin reserving or acquiring endangered right-of-way.

Northern Exurban Bridge Corridor

The Northern Exurban Corridor would be located completely outside the existing Salem-Keizer Urban Growth Boundary; therefore, the location would be contrary to state land use policy to primarily address an urban problem. As a practical matter, the corridor is located so far from the travel market comprising the identified problem that it would be totally ineffectual in providing any substantial relief to the existing bridges.

A northern exurban bridge could, however, be considered as a solution to increasing nonurban demand in the area between Salem and St. Paul/Dayton. Discussions of replacing the Wheatland Ferry were facilitated by Marion County a few years ago but were discontinued due to a lack of interest by the other parties. As the demand continues to increase in the future, the discussions could be resumed.

Recommendation: *It is recommended that the Northern Exurban Corridor be eliminated from additional analysis for several major reasons:*

- a) it would provide no meaningful relief to traffic volumes on the existing bridges,*
- b) it would not relieve congestion on the existing bridge access infrastructure in the downtown core; and*
- c) because of the unlikely prospects of obtaining state approval for an urban service bridge in a rural area.*

The Task Force was clear in their recommendation that this action should not prevent others from considering this corridor as a possible solution for meeting non-urban needs.

Lockhaven Drive

A bridge at the extension of Lockhaven Drive would connect with Wallace Road (Highway 221) approximately 1.5 miles north of the Urban Growth Boundary in Polk County and just south of the rural community of Lincoln. One mile of this corridor would be located outside the Urban Growth Boundary. On the east side of the river, the corridor would place additional traffic on Lockhaven Drive adjacent to a middle school and a high school, and in the vicinity of an elementary school. This bridge location has been the traditional suggestion for the northern bridge of a “beltway” system around the Salem-Keizer area. However, traffic relief provided to the Marion Street Bridge at rush hour would only be 7 percent.

Recommendation: *Due to the small amount of relief to the existing bridges and core infrastructure, the proximity to schools, the prospect of extensive community separation impacts, and the unlikely prospects of obtaining state approval for an urban bridge outside the UGB in West Salem, it is recommended that the Lockhaven corridor be eliminated from additional analysis.*

Chemawa Road

A bridge at the extension of Chemawa Road would connect with Wallace Road (Highway 221) approximately .75 mile north of the Salem Urban Growth Boundary. Approximately 1¼ miles of this corridor are located outside of the Urban Growth Boundary. Outside of the North River Road intersection area, Chemawa Road in Keizer is primarily an established residential street, which is incompatible for a major highway link between a new bridge and I-5. Traffic relief provided on the Marion Street Bridge at rush hour would only be 7 percent.

Recommendation: *It is recommended that this corridor be dropped from additional analysis because of the small amount of relief to the existing bridges, significant separation impacts on the residential area, proximity to schools, and the unlikely prospects of obtaining state approval for an urban service bridge in the rural area of West Salem outside the UGB.*

Tryon Street

On the east side, the Tryon Street corridor would connect with the Salem Parkway in the area where it joins the Liberty/Commercial Couplet. On the west side, it would connect with Wallace Road inside the Urban Growth Boundary. It would cross through some rural farm land, most of which is flood plain. Traffic relief provided on the Marion Street bridge at rush hour would be 17 percent. This corridor does not appear to unavoidably impact any federally protected properties. There is an island that contains a heron rookery in this area, but it may be possible to design a bridge to totally avoid adverse impacts on the rookery. How the connection to the Salem Parkway could best be made to work and the most effective place to connect to Wallace Road are the primary issues with this alternative.

Recommendation: *Due to the apparent lack of significant adverse impacts, the potentially good connection to the transportation system on the east, and its effectiveness in attracting traffic off the existing bridges, a bridge corridor in this general location is recommended for further consideration. One of the issues that needs further study is to determine where the best location to connect to Wallace Road would be. It may be possible to shift the corridor to the north in order to provide a better connection to Brush College Road and Doaks Ferry Road, thereby providing further relief to Wallace Road. This bridge corridor alternative received generally favorable comment from the public during its review.*

Pine Street

A bridge at the extension of Pine Street would connect to Wallace Road inside the Urban Growth Boundary after crossing some rural land. This corridor crosses an island that contains a heron rookery but does not appear to unavoidably impact any federally protected properties. Pine Street makes a good connection to Liberty and Commercial Street, providing for north-south movements. A bridge at Pine Street would, however, put more traffic on streets in a neighborhood that has been actively making changes to reduce traffic incursion and improve the

safety of the streets, including reconfiguring Pine Street from four lanes to three lanes with bike lanes. There are also concerns about where and how this bridge would connect to Wallace Road. Traffic relief provided on the Marion Street bridge at rush hour would be 18 percent.

Recommendation: *While there are some important neighborhood traffic issues to be addressed in the locational EIS process, there are no “fatal” concerns that would prevent construction of a bridge in this general corridor if it were planned and designed with care. Therefore, a bridge in the area of the Pine Street corridor is recommended for further consideration. Of particular concern would be where and how such a bridge would connect to the existing road system on both sides of the river. To improve the road operation and reduce neighborhood impacts, the location may need to be shifted somewhat from the location cited in this report. This corridor alternative received generally favorable comment from the public during the review and comment process.*

Shipping Street

Shipping Street is one block north of Hood Street, and the two streets essentially form the same corridor. The west side extension of Shipping Street would connect with Wallace Road inside the Urban Growth Boundary after crossing approximately one-half mile of rural land. While the direct extension of Shipping Street to the west could be connected to the Wallace Road/Orchard Heights Road intersection, that connection would likely require an alignment through the softball field complex in Wallace Marine Park. In an attempt to avoid the park, the alignment was shifted to the north of the park, joining Wallace Road at Narcissus Court. While this alignment may not physically touch the park, it would still impact the park. On the east side, this alignment would cross the Burlington Northern/Santa Fe railroad on Front Street. Due to the height requirements of an overpass over the railroad and the distance required to get back down to grade, it is likely that the intersection with Commercial Street would need to be grade separated (similar to Mission Street at 13th Street). This corridor also puts more traffic through the North Downtown Plan urban renewal area. Traffic relief provided on the Marion Street bridge at rush hour would be 19 percent.

Recommendation: *Due to the impacts to Wallace Marine Park, the convoluted alignment required to minimize those impacts, the existence of prudent and feasible alternatives that provide essentially the same level of traffic relief to the existing bridges, and potential environmental justice issues, it is recommended that Shipping Street be dropped from further analysis.*

Hood Street

Hood Street is one block south of Shipping Street, and the two streets essentially form the same corridor. The west side extension of Hood Street would connect with Wallace Road inside the Urban Growth Boundary after crossing approximately one-half mile of rural land. While the direct extension of Hood Street to the west could be connected to the Wallace Road/Orchard Heights Road intersection, that connection would require an alignment through the softball field

complex in Wallace Marine Park. In an attempt to avoid the park, the alignment was shifted to the north of the park, joining Wallace Road at Narcissus Court. While this alignment may not physically touch the park, it would still impact the park. On the east side, this alignment would cross the Burlington Northern-Santa Fe railroad on Front Street. Due to the height requirements of an overpass over the railroad and the distance required to get back down to grade, it is likely that the intersection with Commercial Street would need to be grade separated, similar to Mission Street at 13th Street. This corridor also puts more traffic through the North Downtown Plan urban renewal area. Traffic relief provided on the Marion Street bridge at rush hour would be 19 percent.

Recommendation: *Due to the impacts to Wallace Marine Park, the convoluted alignment required to minimize those impacts, and the existence of prudent and feasible alternatives that provide essentially the same level of traffic relief to the existing bridges, it is recommended that Hood Street be dropped from further analysis.*

Market Street

On the west side, a bridge at the extension of Market Street would connect with Wallace Road inside the Urban Growth Boundary, possibly at Glen Creek Road. There does not appear to be an alignment for such a bridge and road extension that would not have a major impact on Wallace Marine Park. On the east side, construction of an overpass of the Burlington Northern-Santa Fe railroad and a grade-separated intersection of Commercial Street would most likely occur. Market Street continues to the east through established neighborhoods and runs adjacent to Grant Elementary School on the way to an interchange with I-5. Traffic relief provided on the Marion Street Bridge at rush hour would be 21 percent.

Recommendation: *Due to the impacts to Wallace Marine Park, and the existence of prudent and feasible alternatives that provide essentially the same level of traffic relief to the existing bridges, it is recommended that the Market Street alternative be dropped from further analysis.*

Division Street

Division and Union Streets are separated by one block and essentially form the same corridor. While there are some differences in their impacts to parks on the east side of the Willamette River, they both heavily impact Wallace Marine Park on the west side and would require proof that no prudent and feasible alternative existed. These corridors are so close to the existing bridges that, while they would divert approximately 30 percent of the peak-hour traffic from the existing bridges, they would also place that traffic back onto the same congested downtown Salem road system.

Recommendation: *Since the Division Street corridor would further congest downtown Salem arterials and impact Wallace Marine Park, and prudent and feasible alternatives exist that would provide essentially the same level of traffic*

relief to the existing bridges, it is recommended that it be dropped from further analysis.

Union Street

Union and Division Streets are separated by one block and essentially form the same corridor. While there are some differences in their impacts to parks on the east side of the Willamette River, they both heavily impact Wallace Marine Park on the west side and would require proof that no prudent and feasible alternative existed. These corridors are so close to the existing bridges that, while they would divert approximately 30 percent of the peak-hour traffic from the existing bridges, they would also place that traffic back onto the same congested downtown Salem road system.

Recommendation: *Since the Union Street corridor would further congest downtown Salem arterials and impact Wallace Marine Park, and prudent and feasible alternatives exist that would provide essentially the same level of traffic relief to the existing bridges, it is recommended that it be dropped from further analysis.*

Pringle Parkway

An extension of the Pringle Parkway (the Ferry/Trade Street couplet) east side segment of Highway 22 would connect with Highway 22 on the west side of the river in the vicinity of Murlark Street. This corridor is totally within the Urban Growth Boundary but crosses Riverfront Park and would encroach on a portion of the Edgewater Street Greenway Park. While the corridor avoids Minto-Brown Park as it crosses Minto Island, it may impact a bird sanctuary owned by the Audubon Society. The proximity of the Burlington Northern-Santa Fe railroad tracks to this corridor would require an overpass with extensive reconstruction in the Front Street-Commercial Street area where there are several historic properties. While this corridor would reduce the peak-hour traffic on the existing bridges by over 25 percent, it would continue to place that traffic on Highway 22 in downtown Salem where traffic is already over capacity during the peak hours.

Recommendation: *Since this corridor would continue to funnel traffic through a congested downtown Salem, impacts a series of parks, and prudent and feasible alternatives exist that provide essentially the same level of traffic relief to the existing bridges, it is recommended that the Pringle corridor be dropped from further analysis.*

Mission Street

The extension of Mission Street would connect with Highway 22 in West Salem in the vicinity of Eola Drive. While this corridor is totally contained within the Urban Growth Boundary, it impacts a variety of important community resources: the State School for the Blind, Bush Elementary School, Salem Community Hospital, Bush's Pasture Park, and at least three historic resources—Deepwood Estate, Bush House, and the Gaiety Hill Historical District. In addition,

Mission Street between 25th Street and the freeway is consistently over capacity and no effective solution has yet been determined, even though Mission Street has been improved between 12th and 25th Streets.

Recommendation: *It is recommended that Mission Street be dropped from further analysis because it would adversely impact federally protected properties and locally cherished resources, continue to funnel traffic onto over-capacity facilities, and generate extensive public opposition.*

Cross Street

An earlier study suggested the Cross Street corridor. Today, this corridor, which follows local residential streets, is not practical because of the wide swath it takes through well established neighborhoods and Minto Brown Park.

Recommendation: *Due to its impact on protected resources, its lack of connection to the arterial street system, its impacts on established neighborhoods, and the overwhelming public opposition that would result, this alternative should be dropped from further analysis.*

Kuebler Boulevard

The Kuebler Boulevard corridor would consist of an improved and realigned Viewcrest Drive between Kuebler and South River Road with a new road and bridge across Brown's Island to Highway 22 in the vicinity of Doaks Ferry Road. This corridor is located very close to some schools, parks, and crosses an extensive flood plain.

A bridge at Kuebler would not effectively address the need of reducing traffic on the existing bridges. A Kuebler bridge would, however, serve as a bypass around downtown Salem, but would not be expected to significantly reduce the through traffic on the downtown arterial system. While large trucks may continue to be only a small percentage of the overall traffic flow, there will someday be a point when it will be desirable to remove these trucks and other through traffic from the downtown Salem street grid. Therefore, while this corridor has some significant concerns associated with it, it should be retained for further consideration and efforts should be taken to preserve the corridor for the distant future.

The Task Force was very concerned that some of the potential impacts of the Kuebler Corridor should not be ignored, because they are similar to those associated with corridors dropped from further study. The Task Force pointed out that this corridor has the potential to significantly impact parks, schools, natural areas, and neighborhoods. In particular, there was the concern that topographic constraints may control the alignment to the point that impacts to Minto-Brown Park would be unavoidable. Members of the Task Force made it clear that they were not sanctioning any impacts to Minto-Brown Park.

Recommendation: *Retain the Kuebler Corridor for further consideration because of its ability to connect Highway 22 with Kuebler Boulevard and I-5, thereby providing an alternative long-term route around the downtown Salem core area.*

Southern Exurban Bridge Corridor

The Southern Exurban corridor would provide a more direct connection between the Independence Bridge and I-5. This connection already exists but is circuitous and uses dirt roads. A paved connection between this bridge and Salem already exists as South River Road. Improvement to this corridor would not likely make any noticeable difference in the congestion on the existing bridges, because it is too far removed from Salem-Keizer to affect local traffic. An improved route from Polk County to the I-5 freeway could divert some through traffic from the Dallas-Monmouth-Independence area away from downtown Salem. This corridor is subject to flooding and contains significant topographical challenges. The conceptual alignment of this corridor, consisting of a straight line between Independence and I-5, is for illustrative purposes only and was tested to demonstrate the most desirable route. It is recommended that this alternative be dropped from further study, because it would not provide meaningful traffic relief to the existing bridges.

Recommendation: *Due to a variety of negative impacts and the lack of relief for the existing bridges, it is recommended that the southern exurban bridge corridor alternative be dropped from further analysis.*

Beltway Concept

The premise of a beltway is that it offers a route that allows a vehicle to move from one side of the area to the other without passing through the more congested central area. There are two concepts of the beltway applicable to the Salem-Keizer area: first, an exurban beltway around the entire urban area, and second, an urban beltway just around the central Salem downtown core. A beltway concept in the Salem-Keizer area would require at least two new bridges, one north and one south of the bypassed area. It should also be noted that a beltway is more than the construction of two bridges. There needs to be a system of supporting roads to carry traffic on the rest of the beltway.

Some Task Force members were concerned that possibly too much emphasis was being placed on solving the existing problem and that a larger, more regional solution should also be addressed. The Task Force did not identify the exact form of a beltway alternative, but much of the discussion indicated that a beltway should address rural and through traffic needs while also meeting some of the local urban needs. In addition to further defining the concept, purpose, and need of a beltway, additional work will be necessary to identify its characteristics (i.e., limited access, arterial, freeway, etc.), connecting road system, location, and likely impacts.

Recommendation: *Defer the beltway concept for further consideration and study at some future date.*

The Need for Action

One issue that the current study has clearly demonstrated is that few viable bridge crossing locations remain in the Salem-Keizer urban area. Identifying a preferred solution will only become more difficult as time passes. Consequently, further study of the recommended corridor alternatives should proceed.

This evaluation, using analyses based on the currently adopted comprehensive plans, finds that both a new bridge and an aggressive expansion of the use of alternative modes will be required to avoid unacceptable levels of congestion on the existing bridges in the future. A "beltway" bridge may also eventually be desirable at some point in the distant future to bypass the downtown Salem core area entirely.

A Vision for the Future

A bridge is a major public investment that does more than just move traffic. A bridge can help shape the community and accommodate and focus desirable growth. It can have positive impacts as well as negative impacts. Future efforts involving the recommended corridors should provide more emphasis on how a new bridge can be designed to enhance the community it serves as well as avoid significant negative impacts.

A related issue is the pattern and types of land use served by the transportation system in the area. Changes to the planned land uses may affect the projected demand on the bridges. The city of Salem is conducting a "Salem Futures" process to examine land use alternatives for inclusion in their Comprehensive Plan. Further bridge study efforts will incorporate the preferred future visions for the area as they become available.

Figure 8-1 Summary Corridor Ranking

Table 8-1 Comparison Matrix

(next four pages)

