

FVI Project Development Team Meeting #5

September 2, 2004, 9 a.m. to 11:30 a.m.

ODOT White City/Jackson County Roads Building

ODOT Present: Debbie Timms (Project Leader), Jerry Marmon (Environmental PM), Bill Bennett (Bridge Design), Brian Sheadel (Roadway), Leslie Schwab (Cultural), Peter Schuytema (TPAU), Ray Lapke (Traffic), James Burford (Bridge), Bob Grubbs (Bridge)

Non-ODOT Present: Angela Harding for Denis Murray (City of Phoenix), Dale Petrasek (Jackson County Roads), John Morrison (RVCOG), Dan Moore (RVCOG), Nancy Reynolds (URS), Emily Moshofsky (URS)

1. Adoption of Meeting Minutes

No comments were recorded for the July 8th meeting. Minutes accepted. The finalized minutes will be distributed to the team.

2. CAC Meeting Summary

The CAC went over the goals and objectives that the team will use to evaluate and filter the alternatives. Individual CAC members ranked the goals based on which were most important to them. The CAC's #1 ranked goal is to protect existing businesses. Debbie commented that the CAC reflects the City of Phoenix in that they are looking for economic development and growth. The lowest of the goal ranking was the natural environment and the Bear Creek Greenway (both of which are protected by regulations).

The process and roles of the CAC were reiterated to ensure the CAC members understand how they fit into the project development process. The CAC is advisory to the PDT, which is the group making decisions on the project. The CAC looked at the 19 different alternatives developed thus far by the CAC and the PDT for this project. The PDT and the CAC will now start filtering the alternatives.

The CAC had their first opportunity to see all of the alternatives. They reviewed the alternatives they developed as well as alternatives developed by the PDT. Nancy commented that the CAC was able to see that the lines on the paper were going become alternatives that would impact property, regardless of which alternative is eventually selected. Brian indicated that the CAC viewed all 19 alternatives, and all of them affected someone.

Dale asked if South Stage Road was discussed at the CAC. It was brought up several times, as well as Northridge Terrace, a manufactured home park west of the interchange. There was also a lot of concern voiced at the meeting about Breckinridge Road. There was also a question as to whether the zone change (for Home Depot) currently under consideration at the City was tied into this project. It was pointed out that these are different processes.

The CAC reviewed the Goals and Objectives evaluation criteria and made some changes. Although they plan to use high/medium/low to distinguish criteria, they have not yet decided on what differentiates those levels.

The issue of relocation came up several times during the CAC meeting, but it is so early in the process that only generic information can be provided.

There was considerable discussion at the CAC meeting regarding safety. This discussion focused on busses going through the current interchange and causing queuing problems. All of the PDT members present at the CAC felt that it was a very productive meeting. The PDT and CAC are now at the same point in the process.

3. Alternative Evaluation

The goal of this PDT meeting was to look at all of the alternatives and begin evaluating them to determine whether there are fatal flaws that would be reasons to drop alternatives. Both the CAC and PDT alternative concepts (identified on the “Concepts Matrix”), were discussed. The matrix includes options that work with the various alternatives. The shading on the matrix shows which options will work with which alternatives.

CAC Alternatives

The following alternatives were developed at the CAC workshop tables. Tables 1-3 represent the CAC members; Table 4 had members from the general public. Brian added the possible options of how to make connections on the maps.

CAC Table #1: Single Point Urban Diamond - N. Phoenix Through

Features:

- This alternative would create a single-point urban diamond at a location immediately north of the existing interchange. The current skewed interchange would be changed to a 90-degree angle in relation to I-5.
- Three optional connections to Highway 99 are identified—two at Cheryl Lane and one at Bolz Lane.
- N. Phoenix Road would be the through street. As shown on the map, the access connections to Fern Valley Road on the east side of the interchange are the closest allowed for signalized intersections (which should be 1325 feet from the interchange).
- One replacement structure and one new structure would be required.
- An optional connection from Bear Lake Estates directly west to Highway 99, and two optional overcrossings from Highway 99 (at the south end of the couplet) to the south end of Breckinridge Drive are included.

Issues:

- Due to access constraints, commercial property in the northwest and southwest quadrants would not have full direct connections to Fern Valley Road.
- Access to Fern Valley Road west of the highway would be restricted; however, there is a potential for right-in/right-out at the northwest and southwest quadrants depending on the connecting option constructed.
- There are potential spacing issues on Highway 99, volume/capacity ratio problems, and potential vehicular queuing.
- It is not yet known if an additional signalized intersection is possible on Highway 99. This is dependent on whether the distance between public road accesses is 500 or 700 feet. Highway 99 is a district highway, which has different spacing requirements. Two signalized intersections (red and blue on the maps) would be difficult to obtain. Peter noted that there is enough traffic on Highway 99 that one connection would likely have a signal. However, the right-in/right-out would not allow for good circulation. This will have to be analyzed.
 - o It would be 500 feet from the blue to the green access roads off of the interchange connecting to Highway 99.
 - o It would be 700 feet from the blue to the red access roads off of the interchange connecting to Highway 99.
 - o One-quarter mile would be a good distance between signalized intersections; the current proposals are about half of what is needed.
- Depending on the alignment options, the plan to maintain access to the manufactured home park on Fern Valley Road could be deleted. The minimum spacing standard for right-in/right-out from the interchange ramps is 800 feet. If the optional access locations on Fern Valley Road are unacceptable, the access to the manufactured home park would have to be located elsewhere.
- Another option is to leave the roadway elevated and have Luman Road go underneath. This would require one new bridge and one bridge replacement. The “green” lines represent a cul-de-sac, but this option would maintain the connection to Luman Road. There is still a spacing issue with Highway 99, however.
- Bolz and Cheryl would have access problems with this alternative concept. However, Bolz would help to provide the opportunity for more local access, and could offer a good entrance to the town of Phoenix.
- The CAC does not want traffic going onto roadways that go directly to the high school. The high school is located off of Cheryl Road, and even though the alternative would not include construction as far as the high school, the CAC is concerned about traffic on that road.
- This alternative would have land use issues; there would be potential goal exceptions required on east side.
- There is flexibility in the northeast quadrant regarding placement of the local roadway system.
- A house of historic interest would be displaced.
- Coleman Creek Estates has a low-income population, which is an environmental justice issue.
- A Jack-in-the-Box restaurant is going to be constructed in the vicinity of the Salvation Army.

Disposition of the Alternative:

No action taken.

CAC Table #2: Partial Cloverleaf - Original Fern Valley Alignment, N. Phoenix Through East

Features:

- This alternative would use the existing alignment as much as possible. The interchange would remain skewed in relation to I-5.
- The existing Fern Valley Interchange would be removed.
- Loop ramps would be located in the northwest and southeast quadrants.
- Existing Fern Valley Road would be displaced due to intersection spacing; a new connection to N. Phoenix Road would be provided across from Breckinridge Drive.
- The potential connections to Highway 99 would be the same as the CAC Table #1 alternative, as would options to Bear Creek Estates.
- An overcrossing south of Bear Creek Estates is included as an option to help connect the east and west sides of Phoenix.

Issues:

- Loop ramps on a skewed intersection result in needing a lot space for the interchange. It would push the access terminus back to Breckinridge on the east side of the interchange.
- Spacing is such that it would force the first signalized intersection back to Highway 99 west of the interchange. As a result, there would be substantial impacts.
- There would be substantial impacts to the northwest quadrant of the existing interchange.
 - The Stores at Exit 24 would not have a right-in/right-out access. A new access directly from Highway 99 would be required.
 - The RV park would not have direct access to Fern Valley Road.
 - If reasonable access is not provided to properties, they must be purchased.
- The geometry associated with this alternative is undesirable; an awkward intersection at Bolz Road would result.
- A raised highway interchange would mean it would be higher and longer when rebuilt, because of the need to meet new standards. This would result in large fills and a gradual decline back to the existing grade instead of the grades on the current interchange.
- This alternative has the same issues regarding connections to Cheryl and Bolz as the Table #1 alternative. A new connection to/from Highway 99 would be required.
- Queue lengths on Fern Valley Road would be problematic; the access would be extremely difficult.
- A frontage road in the southwest quadrant could be used, but would likely result in substantial Section 4(f)/6(f) Bear Creek Greenway issues because this is protected parkland. This option could not be chosen if there are other alternatives that are reasonable and feasible.
- Existing Luman Road would be removed.

- Staging would be difficult due to the use of the existing alignment and structure—temporary structures required.
- This alternative would have substantial impacts.

Disposition of the alternative:

This alternative is likely to be dropped due to significant impacts.

CAC Table #2: Partial Cloverleaf – Located North of Fern Valley Interchange, N. Phoenix through East

Features:

- This alternative concept would add a new interchange north of the existing interchange. Fern Valley Road would be retained as an overcrossing.
- The existing Fern Valley Road interchange structure would have to be rebuilt to get the new ramps underneath the structure. (The existing I-5 structure is too narrow to currently accommodate the ramps. The existing bridge is not on the cracked bridge list for repair or replacement.)
- This alternative would directly connect to N. Phoenix Road from the new interchange; Fern Valley Road would be kept in place for local traffic.

Issues:

- If the alternative were changed to a SPUI, the footprint would be much smaller, but would still have property impacts.
- Interchange spacing is still a big issue, as is the connection with Highway 99.
- This alternative would have potential negative impacts on Bear Creek and the manufactured home park.
- The required width for the new ramps is not available under the current structure. The existing bridge would have to be reconstructed to allow space for the southeast and southwest ramps.
- There would be major impacts to the RV park and the Stores at Exit 24.
- The bridge is not on the “cracked bridge” list.
- This interchange would likely result in a request by the state to make Fern Valley Road a city street. Although the road is considered substandard now, it may not be substandard for a city street. However, the City of Phoenix would likely ask for a new bridge or rehabilitation. An additional problem is that this jurisdictional change would result in added maintenance costs for the City.
- Even with a modified alternative, there would be spacing issues between the existing Fern Valley Road and other Highway 99 connections.

Disposition of the Alternative:

No action taken.

CAC Table# 3: Single Point Urban Diamond - Fern Valley Through

Features:

- Maintain Fern Valley Road, which would require widening. Fern Valley Road would be the through movement.
- Connect the new roadway to Breckinridge Road.
- This plan came primarily from the northeast quadrant property owners.
- There could be a potential signal at the first connection to the northeast neighborhoods.
- Access is a problem, but Fern Valley Road could stay open and terminate near the Peterbuilt area. There's a possibility to soften the curves and make more of an "S" between the connecting leg and S. Phoenix Road, instead of the hard right turns currently designed.

Issues:

- There would be a large intersection at N. Phoenix Road, which would increase noise and traffic, and would not be pedestrian-friendly.
- The Urban Growth Boundary (UGB) stops at the edge of the orchard. Part of the alternative is located outside the UGB.
- The basic design is acceptable. However, roads that connect into Breckinridge Drive would be located outside of the UGB. This would result in Exclusive Farm Use (EFU) impacts. This action would require a Comprehensive Plan change. An exception would be required. Getting an exception for placing a transportation facility outside of the UGB can be difficult, and could delay the project up to a year.
- The existing road network in the southeast quadrant would be retained. S. Phoenix Road and Fern Valley Road would have a new connection to the interchange north of Fern Valley Road.
- There is substantial concern by landowners regarding whether Fern Valley Road is used as the primary connector to the interchange or whether N. Phoenix Road becomes the connecting road. This is a major issue of concern.
- There are neighborhood concerns regarding the connecting local roadway system. The neighborhood does not want additional traffic traveling through the neighborhood.
- Constructability is problematic because the new interchange would use the existing road system, therefore detours are more difficult than new interchange and roadway locations.

Disposition of the alternative:

No action taken.

CAC Table #4: Interchange at S. Bear Lake Estates, S. Stage Road, and Fern Valley Road

Features:

- This alternative would retain the existing Fern Valley Interchange, add an interchange at South Stage Road, and add an interchange south of Bear Lake Estates.

Issues:

- The Bear Lake Interchange would impact the hill southeast of I-5.
- The grade differential would be significant, making the interchange more difficult to design.
- The alternative would connect into Breckinridge Drive, and would have neighborhood opposition.
- This alternative would violate spacing standards; there is less than one mile between the Fern Valley Interchange and the Bear Lake Interchange. The more interchanges there are, the more difficult it would be to meet spacing standards. Interchange spacing with less than 3 miles between interchanges would not meet FHWA and OHP policies.
- The southernmost interchange at south of Bear Lake would impact a park, which is a Section 4(f) property.
- A South Stage Road Interchange could run through a power station. If this alternative were advanced, the design would need to be changed to avoid the power station.
- The cost of the project would increase with each additional interchange that is added.
- FHWA policy is to fully use the existing system before expanding the system to include new interchanges.
- The alternative would impact Blue Heron Park.

Disposition of the alternative:

This alternative was dropped due to fatal flaws. It would not meet the purpose and need and would not meet spacing standards because the alternative would result in interchanges that are less than one mile apart.

CAC Table #4. S. Interchange w/Connection to 5th Street

Features:

- Connection to 4th Street is the difference in connections on east side. The connections would become city roads.
- Some of the property around the alternative is existing ODOT property. This could provide options for minimization of impacts.

Issues:

- No modeling has been done yet.
- There would be impacts to Bear Creek due to bridging it.
- Signalization spacing would probably work with this alternative, and it would maintain existing connections, but it would impact the motel, restaurant, and gas station on the southeast side.

Disposition of the alternative:

No action taken.

The following alternatives were developed by the PDT and were discussed initially at the May meeting.

PDT #1 and 1A: Single Point Urban Diamond - Fern Valley through and N. Phoenix Through

Features:

- Fern Valley Road would connect to N. Phoenix Road.
- This alternative is very similar to one of the CAC options.
- The alternative would minimize right of way impacts at the interchange.
- The CAC is likely to recommend a single point urban diamond interchange because of reduced impacts.

Issues:

- Single Point Urban Diamond (SPUD) interchanges generally minimize footprint impacts.
- The proposal is for a new structure slightly north of the existing interchange.
- Because the alignment minimizes use of the existing roadway system, staging and construction would be improved.
- If the interchange connecting roads are brought in at grade, access to the “Stores at Exit 24” would be impacted, resulting in right-in/right-out at that location.
- Bear Creek Bridge has to be replaced, regardless of which alternative is chosen.
- This alternative would result in the same issues as most of the other alternatives due to problems with the Highway 99 connections.
- There would be two points of connection on N. Phoenix Road.

Disposition of the alternative:

No action.

PDT #2: Split Diamond - Original Fern Valley Alignment

Features:

- This alternative would involve a split diamond interchange with the northbound on-ramps and the southbound off-ramps located at the existing Fern Valley Interchange location. The northbound off-ramps and the southbound on-ramps would be located south of Bear Lake Estates. Frontage roads located immediately adjacent to I-5 from Fern Valley Road to south of Bear Lake Estates would connect the interchange ramps.
- Due to the ramp locations for the north portion of the interchange, N. Phoenix Road would be realigned to the north of its existing location along Fern Valley Road.
- The Fern Valley Road/N. Phoenix Road intersection would be located essentially in its existing location. It would be realigned opposite S. Phoenix Road.
- The S. Phoenix Road connection to Fern Valley Road would be moved about 100 feet to the east to realign with N. Phoenix Road.
- Two optional connections from the south interchange ramps to Highway 99 were identified—both are in the vicinity of the south end of the couplet.
- The connection from the south interchange ramps to the east side would tie into Breckinridge Drive.

Issues:

- The frontage roads required for a split diamond require large amounts of land to accommodate the new roadways.
- There is a hill to the southeast of the alternative that would be extremely expensive to cut through for a new road alignment.
- Blue Heron Park is to the west and avoidance options to impacting the park would be required.
- There would be impacts to Bear Creek Estates from the west side frontage road.
- Sound walls would potentially be needed to reduce the noise impacts to Bear Lake Estates. This would require even more property acquisition, as well as increase costs.
- This type of interchange offers additional connectivity, but would result in substantial impacts.
- There would likely be a lot of opposition to this design.

Disposition of the alternative:

The PDT voted to dismiss this alternative as shown. The impacts to the hill, the Breckinridge Drive neighborhood, and Bear Lake Estates were too significant to retain the alternative further in the project development process. The alternative created more problems than it would solve.

However the PDT did suggest changing this alternative to include a single point diamond interchange ramp configuration at south end. This would be an effort to minimize impacts to the hill and connect the south ramps to S. Phoenix Road rather than to Breckinridge Drive.

PDT #3: Regular Diamond - Perpendicular Fern Valley Alignment

Features:

- This alternative would be a regular diamond interchange on an alignment that is perpendicular to I-5. This would be more desirable for geometry as opposed to alternatives that retain a skewed intersection to I-5.
- Two options are identified for the connecting roads east of I-5. One would use Fern Valley Road as the primary through-road connection. This would require realignment of N. Phoenix Road, which would connect with Fern Valley Road across from Breckinridge Drive. The other option would use N. Phoenix Road as the primary through-road connection. This would require moving the Fern Valley Road/N. Phoenix Road intersection to be moved north along a new N. Phoenix Road alignment.
- Connection options to Highway 99 include options that connect to Cheryl or Bolz (Options 4 and 5).

Issues:

- Interchange spacing would not be a problem because the alternative uses the existing interchange alignment.
- If both connections to Cheryl and Bolz are retained, three structures over Bear Creek would be required.
- There are potential substantial negative impacts.
- There would be the loss of direct access to the northwest and southwest quadrants. Highway 99 would be the first access point to the west from the interchange.

Disposition of the alternative:

No action taken.

PDT #7 Regular Diamond Old Stage Road Alignment

Features:

- This alternative would include an interchange at South Stage Road, an overcrossing at Fern Valley Road, and an overcrossing south of Bear Lake Estates between Breckinridge Drive and Highway 99.

Issues:

- A regular diamond interchange at South Stage Road would require a great deal of Bear Creek Greenway property.
- Although the South Stage Road interchange would be located through proposed Medford Sports Park area, the park plan for the area identifies a corridor to allow for an interchange at the South Stage Road location.
- The interchange spacing issue is a potential fatal flaw due to the proximity of the South Medford Interchange to South Stage interchange, and from South Stage Road to N. Phoenix Road interchange(s).

Disposition of the alternative:

No action taken.

PDT #13 & 22: Regular Diamond - Bolz to N. Phoenix Northern Alignment

Features:

- This alternative would construct an interchange about ___ feet north of the existing Fern Valley Interchange.
- The interchange would be perpendicular to I-5, which would improve the geometry.
- The interchange ramps would connect to a relocated N. Phoenix Road alignment east of I-5.
- West of I-5, the connection to Highway 99 would be on new alignment, and likely would connect to Bolz.
- The existing Fern Valley Road would be retained; the western connection from the interchange would need to cross over Fern Valley Road.
- The existing Fern Valley Interchange structure would be rebuilt to allow sufficient space for the southernmost ramps associated with the interchange.

Issues:

- Steep ramps would be needed to achieve the vertical geometry. This may be a fatal flaw due to the profile/grade.
- The interchange would have double-decker height in order to cross Fern Valley Road, requiring a long facility to get back down to grade.
- There are substantial impacts with this alternative.
- There would be major impacts to the northwest quadrant.
- The southbound off-ramp would likely impact Bear Creek.
- An additional crossing of Bear Creek would be required over Fern Valley Road.

Disposition of the alternative:

No action taken.

PDT #14: Regular Diamond - Cheryl to N. Phoenix Northern Alignment

Features:

- This alternative is similar to Alternative 13/22. However, it would change the west connection to Highway 99 to Cheryl Road.

Issues:

- The actual configuration of this alternative is unlikely to work because the standard diamond would likely require loops, which would require a lot of space.
- The connections with Highway 99 at Cheryl Road and Fern Valley Road are spaced very close together—and would be a problem.
- The connection to Cheryl Road is a problem because of the concern over the safety of the school children along that road.
- The proposed facility may not provide enough capacity to solve the traffic problem.

- The alternative would adversely impact the Stores at Exit 24 and the adjacent Holiday RV Park.
- The Fern Valley Road connection would still require restructuring so the alternative does not produce any cost savings.

Disposition of the alternative:

No action taken.

PDT #18: Regular Diamond - Siphon to Frontage Road Southern Alignment

Features:

- A regular diamond would be constructed to the south of the existing Fern Valley interchange. It would be located south of Bear Lake Estates.
- The connection on the east side would be to Breckinridge Drive. With a S. Phoenix Road intersection connecting to extended Breckinridge Drive south of the neighborhood.
- The connection on the west side includes two options to connect to Highway 99 in the vicinity of the south end of the couplet.
- This alternative could possibly be changed to tie it into S. Phoenix Road instead of Breckinridge Drive.
- Another possibility would be to use a single point urban interchange instead of a diamond at this location.

Issues:

- Federal interchange policy does not allow connections to local streets, only to arterials. In order to handle the traffic volumes, this alternative would require upgrading the functional classification of local streets, such as Breckinridge Drive, with potentially substantial impacts to the neighborhood.
- The Breckenridge Drive connection would divide the community.
- There is a gas pipeline that runs under the proposed interchange. This would have to be moved or accommodations made to address it.
- The connection through the park would be very unlikely to receive federal approval because it violates federal policy.
- If a SPUD is used in this location, it would make the footprint smaller, but there would still be problems with the connections to Breckinridge and through the park.
- One possibility is to look at moving the interchange farther south. However, this would create a situation where the distance between the proposed interchange at Bear Lake would be too close to the existing interchange at Talent, and would thus violate the spacing standard.

Disposition of the alternative:

The PDT voted to dismiss this alternative as shown. The impacts to the hill, the Breckinridge Drive neighborhood, and Bear Lake Estates were too significant to retain the alternative further in the project development process. The alternative created more problems than it would solve.

However the PDT did suggest changing this alternative to include a single point diamond interchange ramp configuration at south end. This would be an effort to minimize impacts to the hill and connect the south ramps to S. Phoenix Road rather than to Breckinridge Drive.

PDT #19: Regular Diamond – Original Fern Valley Alignment, N. Phoenix Through East

PDT #20: Diamond w/ SE Loop – Original Fern Valley Alignment, N. Phoenix Through East

PDT #21: Partial Cloverleaf – Original Fern Valley Alignment, N. Phoenix Through East

Features:

- PDT #19 is similar to the north portion of the split diamond interchange described in Alternative 2. It would be diamond interchange located along the existing Fern Valley Road alignment. N. Phoenix Road would be aligned across from S. Phoenix Road, but slightly (about 100 feet) to the east. Connections to Highway 99 would be via Cheryl or Bolz.
- PDT #20 would be a diamond interchange along the existing Fern Valley Road alignment. It would have a loop in the southeast quadrant. N. Phoenix Road would be realigned to connect across from Breckinridge Drive. The west connections to Highway 99 would be via Cheryl or Bolz.
- PDT #21 would be similar to PDT #20 except a loop ramp would be constructed in the northwest quadrant, thus pushing the ramps on the west side further to the west.

Issues:

- All three alternatives would have issues as stated previously.
- All three alternatives exclude direct access to the northwest quadrant.
- Impacts from PDT #19 would be similar to PDT #2. With PDT #19, there would be no direct access to the northwest and southwest quadrants of the interchange, resulting in substantial impacts to the interchange commercial area.
- PDT #20 would also not allow direct access to the northwest and southwest quadrants of the existing interchange. In addition, the loop ramps would impact commercial areas in the northeast and southeast areas, and would result in additional traffic on Breckinridge Drive.
- PDT #21 would result in significant impacts to the northwest quadrant. Most of the land currently occupied by the Stores at Exit 24 would be used by the interchange ramps. Impacts to the southeast quadrant would be similar to PDT #20.

- Staging issues exist any time a new facility is planned on an existing alignment. A greater amount of coordination is required to maintain traffic flow and facilitate construction.

Disposition of the alternatives:

No action taken.

Figure 25-Regular Diamond - Glenwood Road

Features:

- This alternative would move the interchange north to Glenwood Street.
- It would be a diamond interchange.
- Glenwood Street would connect directly east to N. Phoenix Road.
- Fern Valley Road would be an overcrossing along the existing alignment.

Issues:

- The alternative runs parallel to Bear Creek, which increases the potential for impacts.
- There are spacing issues with South Medford Interchange due its proximity.
- There is a pond on the northeast side of the freeway.
- One possibility of reducing impacts would be to consider a SPUD in this location.
- There is a possibility of modifying this option; however, it is in EFU land and outside of the UGB.

Disposition of the alternative:

No action taken.

4. Modeling Primer

The modeling primer was presented by Peter Schuytema. There was an overhead presentation and roundtable discussion. This information will be shared with the CAC at their next meeting.

Next Meeting :

Thursday November 4, 2004. (9 a.m. – 11 a.m., 200 Antelope Road, Conference Room TBD, White City, OR)