OR 99 Improvement Concepts – Summary Evaluation Matrix

ID	Location	General Description	Purpose	Traffic Operations and Safety[1,2,3]	Basic Roadway Geometry and Right of Way[4]	Environmental and Land Use[5]	Cost Opinion[6]
South Medford and Transition to Phoenix Segments - Garfield Street to Phoenix North City Limits (North of Cheryl Avenue)							
1	Garfield St to Charlotte Ann Rd (MP 8.56-8.75)	Construct sidewalks along the west side of OR 99 with fencing to separate from the railroad tracks	Provide facilities along OR 99 for all modes of travel	▪ Continuous 6' sidewalks improve safety of pedestrians and access to transit ▪ Construct fence between sidewalk and railroad tracks to separate pedestrians from rail traffic and discourage them from crossing the tracks	▪ Sidewalks are present on the east side, but not present on the west side of this segment ▪ 6' sidewalks added with fencing to provide a barrier between pedestrians and the adjacent rail	▪ Would need to provide fencing between sidewalks and the railroad tracks to avoid potential conflict.	▪ $165,000 ▪ Assumes curb and drainage already in place ▪ Includes sidewalk and fencing
2	Garfield St to Phoenix North City Limits (MP 8.56-11.03)	Install roadway lighting at key locations	Enhance visibility and safety in corridor	▪ Lighting to be installed at transit stops and higher volume unsignalized intersections ▪ Improved safety and security for all modes ▪ Improved visibility for bicyclists on roadway, pedestrians on sidewalks and crossing roadways, and at transit stops	▪ Additional ROW or a utility easement may be needed depending on the roadway cross-section	▪ No modifications to current land uses ▪ No environmental resource impacts	▪ TBD
3	Charlotte Ann Rd to Fern Valley Interchange Project Boundary (MP 8.75-11.04)	Modify roadway cross section to better serve bicycles and pedestrians ▪ Option A: Modify striping of existing 5-lane roadway cross section to add bike lanes and construct continuous sidewalks ▪ Option B: Widen existing 5-lane roadway cross section to add bike lanes and construct continuous sidewalks	Provide facilities along OR 99 for all modes of travel	▪ Current ADT: 14,000 to 17,000 vpd ▪ Forecast ADT: 19,000 to 22,000 vpd ▪ Posted speed is 45 mph Option A: ▪ Minor change to roadway capacity associated with narrower travel lanes ▪ 5' bike lanes provide clearly defined travel way for bicyclists ▪ Continuous 6' sidewalks improve safety of pedestrians and access to transit ▪ Travel speeds potentially slower with narrower lanes ▪ Consider reduction in posted speed to 40 mph where 11' travel lanes are present Option B: ▪ No changes to roadway capacity and achieves ODOT standard cross-section ▪ 6' bike lanes provide clearly defined travel way for bicyclists ▪ Continuous 6' sidewalks improve safety of pedestrians and access to transit	▪ Existing roadway width 66-72' in 70-100' ROW ▪ Sidewalks are substandard or non-existent in many locations ▪ No bike lanes ▪ Keeps alignment along current center line Option A: ▪ 5-lane urban section (11-12' travel lanes, 12-14' median, 5' bike lanes, 6' sidewalks) ▪ Paved width remains same as existing (66-72') ▪ Some culvert extensions needed ▪ 6' sidewalks added with additional ROW or sidewalk easements (some existing substandard sidewalks may remain to avoid building impacts) ▪ Design exceptions required Option B: ▪ 5-lane urban section (12' travel lanes, 14' median, 6' bicycle lanes,6' sidewalks) ▪ Paved width increases to 74' ▪ More significant culvert extensions needed ▪ 6' sidewalks added at new edge of pavement with additional ROW or sidewalk easements ▪ Additional ROW needed at some locations for roadway widening	▪ Existing zoning is primarily industrial west of OR 99 and commercial east of OR 99 ▪ No significant natural resources Option A: ▪ Additional ROW (up to 16' depending on location) or easements needed to accommodate sidewalks ▪ Some property impacts (including parking lots) to add sidewalks but no building impacts anticipated ▪ Will require better access definition in some areas Option B: ▪ Additional ROW (up to 20' depending on location) ▪ Sidewalks could be accommodated in easements ▪ More property impacts associated with wider roadway and sidewalks ▪ Structure impacts may be involved along corridor from roadway widening and new sidewalks	Option A: ▪ $3.5 million ▪ Includes sidewalk construction cost and assumes restriping ▪ No utility relocation or ROW costs included Option B: ▪ $9.7 million ▪ No utility relocation or ROW costs included
4	Spot Locations between Charlotte Anne Rd and Cheryl Ave (MP 8.75-11.11)	Install median islands ▪ Near Charlotte Anne Rd (MP 8.81) ▪ Near Alder St (MP 10.03) ▪ Near Birch St (MP 10.35) ▪ Near Northridge Terrace (MP 10.58) ▪ Near Walnut Way (MP 10.91)	Enhance safety for all users	▪ Existing transit stops near each location ▪ 1 pedestrian collision (MP 10.95) during 5-year analysis period ▪ Provides more substantial mid-street refuge for pedestrians crossing roadway to improve safety ▪ Transit stop relocation should be considered to better coordinate with refuge islands ▪ No impacts to traffic operations ▪ Would need to be coordinated with other future access management measures	▪ Can be implemented with existing cross-section or with either option from Concept 3 ▪ Designs would need to be coordinated with future access management plans ▪ No ROW impacts	▪ Could affect access at some driveway locations – might limit movements to right-in/right-out ▪ Locations focused on nearby transit access and types of adjacent land use	▪ $50,000 per median island ▪ Some cost savings could be incurred if several median islands are constructed concurrently.

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5	South Stage Rd (MP 9.79)	Modify traffic signal timing ▪ Add clearance intervals to traffic signal ▪ Provide protected left-turn phases on South Stage Rd	Address existing safety concerns	▪ Protected left-turn phases can reduce turning collision frequency (5 turning collisions during analysis period) ▪ Increased clearance intervals can reduce angle collision frequency (2 angle collisions during 5-year analysis period) ▪ Signal timing changes could increase v/c ratios but operations are still expected to meet mobility standards	▪ No impacts to roadway geometry or right-of-way	▪ No modifications to current land uses ▪ No environmental resource impacts	▪ $20,000 ▪ Assumes two new signal heads but use of existing mast arms
6	Northridge Terrace (MP 10.58)	Improve turning radius at Northridge Terrace	Address existing safety concerns	▪ 9 crashes at MP 10.58 during 5-year analysis period, mostly turning collisions. Two rear-end collisions involving the northbound-right turn movement. ▪ Northridge Terrace is curved at its approach to OR99, causing NBR vehicles to slow down more than mainline traffic expects. ▪ Enhance safety by providing a quicker separation of right-turning traffic from 45 mph mainline traffic	▪ Existing roadway width 66' in 70' ROW ▪ Improves current turn radius from approx. 10 feet to 25 feet, allowing for a higher-speed turn ▪ Keeps alignment along current centerline	▪ No environmental resource impacts ▪ Minor ROW impacts to property in the southeast quadrant of the intersection ▪ Would not impact structures	▪ $125,000 ▪ Includes minimal ROW acquisition
7	North of Rose St to 42nd Ave (MP 10.84-10.98)	Reduce the number of conflicting turning movements: ▪ Close residential access (west side) at MP 10.84 and connect to Rose St for access to OR 99 ▪ Close Park St (west side) at MP 10.92 (access OR 99 via 42nd Ave at MP 10.98) ▪ Close Royal Rd (east side) at MP 10.94 (access OR 99 via Walnut Way at MP 10.91) ▪ Close Acorn Ave (east side) at MP 10.94 (access OR 99 via Walnut Way at MP 10.91)	Address existing safety concerns	▪ 16 crashes during a 5-year analysis period; mostly turning collisions ▪ Currently there are 7 access points in 750' segment ▪ Fewer accesses would reduce the number of conflict points thus reducing overall collision potential ▪ Traffic operations could see smoother traffic flow ▪ Alternative access into developments available ▪ Emergency and pedestrian access could be maintained	▪ No changes to existing roadway cross section are required ▪ Only ROW impact associated with connection to Rose St	▪ No environmental resource impacts ▪ Connection to Rose St may require ROW but would not impact structures ▪ Fewer vehicular access points to mobile home developments may result in increased vehicular volumes within the development	▪ $350,000 ▪ Includes ROW acquisition in the NW quadrant of OR 99/Rose St
Phoenix Segment - North City Limits (North of Cheryl Avenue) to South City Limits (North of Cabbage Lane)							
8	Fern Valley Interchange Project Boundary to south end of couplet (MP 11.33-11.93)	Relocate utility poles outside of the sidewalk area or widen sidewalks to provide a travel width of 6' around utility poles in coordination with other planned projects or new development	Enhance functionality of pedestrian facilities	▪ Relocated utility poles would increase the available sidewalk width for pedestrians, and improve the pedestrian level-of-service	▪ Additional ROW or a utility easement may be needed depending on the roadway cross-section ▪ Should be coordinated with other planned projects and new development	▪ Some minor ROW or easements may be needed to relocate utility poles ▪ City Code modification/stipulations for lighting/utility placement	▪ Costs will be incorporated into other infrastructure or development projects
9	Downtown Phoenix at north (MP 11.37) & south (MP 11.93) ends of couplet	Add gateway treatments at the north and south end of the couplet to emphasize upcoming downtown area	Reduce travel speeds and enhance downtown environment	▪ Current ADT: 5,500 to 8,500 vpd in each direction ▪ Forecast ADT: 8,500 to 11,000 vpd in each direction ▪ 21 crashes on N Main St and 16 crashes on Bear Creek Dr during 5-year analysis period ▪ Improve safety by alerting drivers of change in roadway function and environment (entering a downtown community)	▪ Focus improvements within existing public ROW ▪ Construct features that will not interfere with sight distance of pedestrian visibility	▪ Existing City of Phoenix zoning is City Center ▪ No ROW impacts ▪ No natural resource impacts	▪ $100,000

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10	Downtown Phoenix on N Main St (MP 11.37-11.93)	Restripe existing 2-lane roadway cross section to add bike lane and define parking areas	Provide facilities along OR 99 for all modes of travel and enhance downtown environment	▪ Current ADT: 5,500 to 8,500 vpd ▪ Forecast ADT: 8,500 to 11,000 vpd ▪ Clearly defined travel lanes may encourage slower travel speeds through downtown ▪ 6' bike lane provides clearly defined travel way for bicyclists ▪ 7' parking lane striping helps define boundary between travel lane and parking lane	▪ Main St existing roadway width 33-44' in 60' ROW ▪ No change in paved width ▪ 2-lane paved section (12' travel lanes, 5-6' bike lane, 7'parking lanes) ▪ May require design exception for parking lane width	▪ Existing City of Phoenix zoning is City Center ▪ No ROW impacts ▪ No natural resource impacts	▪ $50,000
11	Downtown Phoenix on Bear Creek Dr (MP 11.37-11.96)	Improve sight distance in corridor by removing some roadside foliage and relocating signs that restrict sight lines	Enhance visibility and address existing safety concerns	▪ Current ADT: 6,000 to 8,500 vpd ▪ Forecast ADT: 9,500 to 11,000 vpd ▪ 16 crashes during 5-year analysis period including 1 turning collision and 10 angle collisions ▪ Improve visibility of oncoming traffic for drivers waiting at cross streets and vice versa	▪ Roadside foliage maintenance will be ongoing effort and should be performed during seasons when trees and bushes are carrying leaves ▪ Sign relocation performed once	▪ Sign relocation may include private signage ▪ Scrub-shrub wetland west of the couplet would be affected ▪ Regulations allow trimming and tree removal with some restrictions regarding soil removal and the overstory that provides stream shade	▪ $15,000
12	Downtown Phoenix on N Main St (MP 11.37-11.93)	Stripe crosswalks on the north side of intersections at 5th St, 4th St, 1st St, and Oak St ▪ Option A: Crosswalk striping only ▪ Option B: Curb extensions and crosswalk striping	Improve opportunities to cross OR 99 and enhance downtown environment	▪ Current ADT: 5,500 to 8,500 vpd ▪ Forecast ADT: 8,500 to 11,000 vpd ▪ Existing pedestrian crossings at Bolz Ln and 3rd St Option A: ▪ Marked crosswalks identify the presence of pedestrian activity in the area ▪ Crosswalks on north side of the intersection encourage pedestrians to cross where they are most visible to motorists entering N Main St from the cross streets ▪ Crosswalks on 5th, 4th, 1st, and Oak should also be striped for connections to N Main St crossings Option B: ▪ Same benefits as Option A ▪ Curb extensions shorten crossing distance, increase visibility of pedestrians, and further enhance downtown environment.	Option A: ▪ Use striping that maximizes crosswalk visibility as vehicles approach ▪ A short sidewalk connection would be required on the east side of the 5th Street crossing location Option B: ▪ Same as Option A ▪ Curb extensions on corners of 5-6' from sidewalk ▪ Drainage with curb extensions must be considered in design	▪ Existing City of Phoenix zoning is City Center ▪ No ROW impacts ▪ No natural resource impacts	▪ Option A: $15,000 ▪ Option B: $90,000

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13	Bear Creek Dr at 4th and Oak Streets(MP 11.33-11.92)	Enhance connections to Bear Creek Greenway Trail to provide parallel and convenient bicycle and pedestrian facilities along Bear Creek Dr: ▪ South Connection: Create a more direct multi-use path connection from Bear Creek Dr to Greenway Trail at Oak St ▪ North Connection: Pave connection from Greenway Trail to Bear Creek Dr at 4th St ▪ From the North Connection: Provide continuous pedestrian facilities along the east side of OR99 to the north	Provide facilities along OR 99 for all modes of travel	▪ Current ADT: 6,000 to 8,500 vpd ▪ Forecast ADT: 9,500 to 11,000 vpd ▪ Provides convenient connections to off-street multi-use trail to accommodate bicycles and pedestrians traveling along the east side of OR 99 ▪ Adds some travel time for a bicyclist when compared to traveling on the roadway, but provides safety benefits ▪ Sidewalks on the east side of OR 99 added from the north trail connection to link with the Fern Valley Interchange improvements	▪ No change to roadway ▪ North Connection: 12' paved surface from Greenway Trail to Bear Creek Dr at 4th St ▪ South Connection: 12' paved connection from south park access road to Bear Creek Greenway Trail ▪ South Connection: Short retaining wall and protective railing needed ▪ Existing street lighting along Bear Creek Dr illuminates Greenway Trail but additional lighting may be desirable ▪ Sidewalks would need to widen around existing utility poles to provide 6' of available width, or poles would need to be relocated	▪ North Connection: No land use or environmental issues ▪ South Connection: Trail connection through wetland area would require mitigation ▪ Bear Creek Greenway Trail currently has limited hours of operation ▪ Utility pole relocation outside of the existing ROW may be considered for sidewalk improvements	▪ $400,000
14	Downtown Phoenix on Bear Creek Dr (MP 11.49-11.92)	Stripe crosswalks on south side of intersection at 4th St and Blue Heron Park entrance	Enhance opportunities to cross OR 99	▪ Current ADT: 6,000 to 8,500 vpd ▪ Forecast ADT: 9,500 to 11,000 vpd ▪ 2 collisions involving pedestrians (4th St and Oak St) during 5-year analysis period ▪ Existing pedestrian crossing at Bolz Ln ▪ Marked crosswalks identify the presence of pedestrian activity in the area ▪ Crosswalks on south side of the intersection encourage pedestrians to cross where they are most visible to motorists entering Bear Creek Dr from the cross streets ▪ Crosswalks on 4th St should also be striped for connections to Bear Creek Dr crossing	▪ In the case of the crossing at the Blue Heron Park entrance, the crosswalk would likely connect to the existing refuge island that divides inbound and outbound traffic and connects the existing crosswalks across the park entrance. ▪ No changes to existing roadway cross section is required ▪ No ROW impacts	▪ Wetlands (palustrine, scrub-shrub) are located to the east and west of Bear Creek Dr/east of Main St, no impacts anticipated ▪ No land use impacts	▪ $50,000
15	Downtown Phoenix on N Main St and Bear Creek Dr at 4th St (MP 11.49)	Install pedestrian-activated crossing device such as the Rectangular Rapid Flashing Beacon (RRFB) with crosswalk striping (see Concepts 12 & 14 for additional guidance on locations of crosswalks)	Increase the safety of pedestrian crossings	▪ Current ADT: 8,000 to 8,500 vpd in each direction ▪ Forecast ADT: 11,000 vpd in each direction ▪ 1 collision involving a pedestrian on Bear Creek Dr at 4th St during 5-year analysis period ▪ The RRFB increases driver awareness of pedestrian presence at a crossing ▪ The RRFB has higher driver compliance with vehicles stopping for pedestrians than striped crosswalks alone ▪ RRFBs can be installed with advance signage and beacons to alert drivers in advance of crossing ▪ Pedestrian crossing volume thresholds must be met but insufficient data is currently available for evaluation	▪ No changes to existing roadway crossing section are required ▪ If desired, an overhead sign could be provided by a mast arm. ▪ No ROW impacts	▪ No natural resource impacts ▪ No land use impacts	▪ $20,000 per pair, $40,000 total ▪ This assumes two solar-powered pole-mounted units (one on each side of the roadway) ▪ An overhead sign would increase costs by approx $50,000 per location

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16	Downtown Phoenix on N Main St at Oak St (MP 11.85) and Bear Creek Dr at Blue Heron Park Entrance (MP 11.92)	Install pedestrian-activated crossing device such as the Rectangular Rapid Flashing Beacon (RRFB) with crosswalk striping (see Concepts 12 & 14 for additional guidance on locations of crosswalks)	Increase the safety of pedestrian crossings	▪ Current ADT: 5,500 to 6,000 vpd in each direction ▪ Forecast ADT: 8,500 to 9,500 vpd in each direction ▪ 1 collision involving a pedestrian on Bear Creek Dr at 4th St during 5-year analysis period ▪ The RRFB increases driver awareness of pedestrian presence at a crossing ▪ The RRFB has higher driver compliance with vehicles stopping for pedestrians than striped crosswalks alone ▪ RRFBs can be installed with advance signage and beacons to alert drivers in advance of crossing ▪ Pedestrian crossing volume thresholds must be met but insufficient data is currently available for evaluation	▪ No changes to existing roadway crossing section are required ▪ If desired, an overhead sign could be provided by a mast arm. ▪ No ROW impacts	▪ No natural resource impacts ▪ No land use impacts	▪ $20,000 per pair, $20,000 for advanced signage; $60,000 total ▪ This assumes two solar-powered pole-mounted units (one on each side of the roadway), with advanced signage ▪ Overhead sign increases costs by approx $50,000 per location
17	Bear Creek Dr @1st St (MP 11.68)	Add emergency vehicle traffic control signal with advanced warning along Bear Creek Dr at 1st St	Reduce response time and improve safety of emergency responders	▪ Current ADT: 6,000 to 8,500 vpd ▪ Forecast ADT: 9,500 to 11,000 vpd ▪ 5 crashes during 5-year analysis period ▪ Current delays of 15 seconds for traffic on 1st St during busy traffic periods ▪ Roadway curvature makes it difficult to determine which lanes vehicles on Bear Creek Dr are using ▪ Delays will go up in the future as volumes increase ▪ Traffic signal stops oncoming traffic on Bear Creek Dr for fire station vehicles using 1st Street to access OR 99 northbound ▪ Traffic signals with low activation rates can have lower driver compliance	▪ Emergency vehicle traffic control signals are generally installed at the direct access to the building housing the emergency vehicle ▪ Criteria outlined in the MUTCD must be assessed in further detail before installation	▪ Minimal land use and natural resource impacts associated with location of traffic signal infrastructure	▪ $250,000

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18	South end of Couplet to South Phoenix City Limits (MP 11.96-12.36)	Modify roadway cross section to add a center median and better serve bicycles and pedestrians ▪ Option A: Widen existing 4-lane roadway to include center median lane and bike lanes but minimize pavement cross-section and construct continuous sidewalks ▪ Option B: Widen existing 4-lane roadway to include standard center median lane and bike lanes and construct continuous sidewalks	Increase capacity, improve safety, and provide facilities along OR 99 for all modes of travel	▪ Current ADT: 10,000 – 12,000 vpd ▪ Forecast ADT: 15,000 – 18,000 vpd ▪ 6 crashes during 5-year analysis period, no angle or turning collisions ▪ Posted speed is 40 mph Option A: ▪ Increases roadway capacity ▪ Center median lane improves safety with buffer between travel lanes and refuge for left-turning vehicles and pedestrians ▪ 5' bike lanes provide clearly defined travel way for bicyclists ▪ Continuous 6' sidewalks improve safety of pedestrians and access to transit ▪ Travel speeds potentially slower with narrower lanes Option B: ▪ Increases roadway capacity Center median lane improves safety with buffer between travel lanes and refuge for left-turning vehicles and pedestrians ▪ 6' bike lanes provide clearly defined travel way for bicyclists ▪ Continuous 6' sidewalks improve safety of pedestrians and access to transit	▪ Existing roadway width 50' in 75' ROW ▪ Sidewalks are substandard or non-existent in many locations ▪ No bike lanes ▪ Keeps alignment along current center line Option A: ▪ 5-lane urban section (12' travel lanes, 12' median, 5' bike lanes, 6' sidewalks) ▪ Paved width increases from 50' to 70' ▪ Some culvert extensions needed ▪ 6' sidewalks added with additional ROW or sidewalk easements ▪ Design exceptions required Option B: ▪ 5-lane urban section (12' travel lanes, 14' median, 6' bicycle lanes,6' sidewalks) ▪ Paved width increases from 50' to 74' ▪ More significant culvert extensions needed ▪ 6' sidewalks added with additional ROW or sidewalk easements ▪ Achieves ODOT standard cross-section	▪ Existing City of Phoenix zoning is primarily highway commercial ▪ OR 99 crosses Anderson Creek at MP 12.33 Option A: ▪ Additional ROW (up to 9') or easements needed to accommodate sidewalks ▪ Some property impacts (including parking) to widen and add sidewalks but no structure impacts ▪ Will require better access definition in some areas Option B: ▪ Additional ROW (up to 13') ▪ Sidewalks could be accommodated in easements ▪ More property impacts (including parking) to widen and add sidewalks but no structure impacts	Option A: ▪ $2.3 million ▪ Includes sidewalk construction cost and assumes restriping ▪ No utility relocation or ROW costs included Option B: ▪ $2.5 million ▪ No utility relocation or ROW costs included
19	South End of Couplet to Phoenix South City Limits (MP 11.96-12.36)	Install roadway lighting at key locations	Enhance visibility and safety in corridor	▪ Lighting to be installed at transit stops and higher volume unsignalized intersections ▪ Improved safety and security for all modes ▪ Improved visibility for bicyclists on roadway, pedestrians on sidewalks and crossing roadways, and at transit stops	▪ Additional ROW or a utility easement may be needed depending on the roadway cross-section	▪ Some minor ROW or easements may be needed to locate utility poles for street lights	▪ TBD
Transition Segment - Phoenix South City Limits (North of Cabbage Lane) to Talent North City Limits (Colver/Suncrest Road)							
20	Phoenix South City Limits to Colver/ Suncrest Rd (MP 12.36-13.86)	Modify roadway cross section to better serve bicycles and pedestrians ▪ Option A: Widen existing 4-lane roadway to provide wider shoulders (6') and painted median (2') ▪ Option B: Widen existing 4-lane roadway to increase striped median width (4') and provide standard width shoulders (8')	Provide facilities along OR 99 for all modes of travel	▪ Current ADT: 9,000 to 10,000 vpd ▪ Forecast ADT: 14,000 to 15,000 vpd ▪ 19 crashes during 5-year analysis period Option A: ▪ No changes to roadway capacity ▪ Provides wider shoulders to more safely accommodate bicyclists and pedestrians ▪ Improves safety by increasing separation between bi-directional travel Option B: ▪ Benefits are similar to but slightly greater than Option A because shoulder widths and center median are wider	▪ Existing roadway width 48-52' in 70-130' ROW ▪ Keeps alignment along current center line Option A: ▪ 4-lane rural section (12' travel lanes, 6' shoulders, 2' painted median) ▪ Paved width increases to 62' ▪ Desired ROW ~85'-95' for slopes and drainage ▪ Significant excavation for ditches ▪ Extension of cross culverts and relocation of all parallel culverts needed Option B: ▪ 4-lane rural section (12' travel lanes, 8' shoulders, 4' painted median) ▪ Paved width increases to 68' ▪ Desired ROW ~90-100' for slopes and drainage ▪ Significant excavation for ditches ▪ Culvert impacts slightly greater than Option A	▪ Existing Jackson County zoning is rural residential or exclusive farm use ▪ OR 99 crosses Phoenix Canal at MP 12.79 Option A: ▪ Some potential ROW impacts ▪ Some small wetlands (palustrine, emergent) located at south end of corridor could require mitigation ▪ Consideration of Statewide Planning Goals needed Option B: ▪ Similar impacts to Option A but more extensive	Option A: ▪ $4.5 million ▪ No utility relocation or ROW costs included Option B: ▪ $5.6 million ▪ No utility relocation or ROW costs included

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21	Phoenix South City Limits to Colver/ Suncrest Rd (MP 12.36-13.86)	Install roadway lighting at key locations	Enhance visibility and safety in corridor	▪ Lighting to be installed at transit stops and higher volume unsignalized intersections ▪ Improved safety and security for all modes ▪ Improved visibility for bicyclists on roadway, pedestrians on sidewalks and crossing roadways, and at transit stops	▪ Additional ROW or a utility easement may be needed depending on the roadway cross-section	▪ Some ROW or easements may be needed to locate poles for street lights ▪ Additional light in rural areas can be construed as a potential impact to surrounding development, which supports careful selection of additional light locations.	▪ TBD
Talent Segment - Talent North City Limits (Colver/Suncrest Road) to South City Limits (South of Creel Road)							
22	Colver/Suncrest Rd to Rapp Rd (MP 13.86-14.59)	Upgrade or fill in missing sidewalks along OR 99	Complete pedestrian system on both sides of OR 99	▪ Current ADT: 10,000 to 11,000 vpd ▪ Forecast ADT: 14,000 to 16,000 vpd ▪ Continuous paved sidewalks improve pedestrian safety	▪ Development on existing parcels may not allow for a full-width sidewalk ▪ Some easements or additional ROW may be required	▪ Construction assumed to occur with development or redevelopment of adjacent properties	▪ Costs assumed to be incurred by adjacent development or redevelopment over time
23	Colver/Suncrest Rd through Creel Rd (MP 13.86-15.34)	Install roadway lighting at key locations	Enhance visibility and safety in corridor	▪ No impacts to traffic operations ▪ Improved visibility for bicyclists on roadway, pedestrians on sidewalks and crossing roadways, and at transit stops	▪ Additional ROW or a utility easement may be needed depending on the roadway cross-section	▪ Some minor ROW or easements may be needed to locate utility poles for street lights	▪ TBD
24	W Valley View Rd (MP 14.20)	Modify traffic signal timing ▪ Add clearance intervals to traffic signal ▪ Provide protected left-turn phases on W Valley View Rd	Address existing safety concerns	▪ Protected left-turn phases can reduce turning collision frequency (8 turning collisions during analysis period) ▪ Increased clearance intervals can reduce angle collision frequency (3 angle collisions during 5-year analysis period) ▪ Signal timing changes could increase v/c ratios but operations are still expected to meet mobility standards)	▪ No impacts to roadway geometry or right-of-way	▪ No modifications to current land uses ▪ No environmental resource impacts	▪ $20,000 ▪ Assumes two new signal heads but use of existing mast arms
25	South of Rapp Rd through Creel Rd (MP 14.71-15.34)	Continue 5-lane cross-section from Rapp Road through Creel Road	Provide facilities along OR 99 for all modes of travel and improve safety	▪ Current ADT: ~11,000 ▪ Forecast ADT: ~16,000 ▪ 17 crashes during 5-year analysis period including 6 rear end, 6 turning, and 1 angle collision ▪ Increases roadway capacity ▪ Center median lane improves safety with buffer between travel lanes and refuge for left-turning vehicles and pedestrians ▪ Right-turn deceleration lanes provide refuge for right-turning vehicles ▪ 6' bike lanes provide clearly defined travel way for bicyclists ▪ Continuous 6' sidewalks improve safety of pedestrians and access to transit ▪ Access management implemented with project can improve safety and operations	▪ Draft prospectus prepared to add project to STIP (Key No. 17478) ▪ Prospectus includes 76' paved section (12' travel lanes, 16' median, 6' bike lanes) with 6' sidewalks ▪ Prospectus includes right-turn deceleration lane at Creel Rd, center median refuge island on OR 99 on the north side of Creel Road and a traffic signal ▪ Prospectus includes pavement preservation from end of urban section south to connect with recent pavement improvements ▪ Improvement should also consider right-turn deceleration lanes at Arnos Rd	▪ Existing City of Talent zoning is a mix of residential and industrial uses along the corridor ▪ Additional ROW needed ▪ Some property impacts (including parking) to widen and add sidewalks but no structure impacts ▪ Will require better access definition in some areas	▪ $3.1 million (STIP project – Key # 17478) ▪ Includes ROW costs

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Transition Segment – Talent South City Limits (South of Creel Rd) to S Valley View Road							
26	Talent South City Limits to Talent Ave (MP 15.45-16.26)	Modify roadway cross section to better serve bicycles and pedestrians ▪ Option A: Widen existing 4-lane roadway to provide wider shoulders (6') and painted median (2') ▪ Option B: Widen existing 4-lane roadway to increase striped median width (4') and provide standard width shoulders (8')	Provide facilities along OR 99 for all modes of travel	▪ Current ADT: 9,000 to 10,000 vpd ▪ Forecast ADT: 12,000 to 13,500 vpd ▪ 2 crashes during 5-year analysis period Option A: ▪ No changes to roadway capacity ▪ Provides wider shoulders to more safely accommodate bicyclists and pedestrians ▪ Connects urban section of OR 99 in Talent with Bear Creek Greenway Trail opposite Talent Avenue ▪ Improves safety by increasing separation between bi-directional travel Option B: ▪ Benefits are similar to but slightly greater than Option A because shoulder widths and center median are wider	▪ Existing roadway width 50' in 95-120+' ROW ▪ Steep slopes on northeast side of OR 99 require most widening to southwest Option A: ▪ 4-lane rural section (12' travel lanes, 6' shoulders, 2' painted median) ▪ Paved width increases to 62' ▪ Desired ROW ~85'-95' for slopes and drainage ▪ Significant excavation for ditches ▪ Extension of cross culverts and relocation of all parallel culverts needed Option B: ▪ 4-lane rural section (12' travel lanes, 8' shoulders, 4' painted median) ▪ Paved width increases to 68' ▪ Desired ROW ~90-100' for slopes and drainage ▪ Significant excavation for ditches ▪ Culvert impacts slightly greater than Option A	▪ Existing Jackson County zoning is general commercial, rural residential, or exclusive farm use ▪ Bear Creek runs near OR 99 to the northeast ▪ OR 99 crosses one Bear Creek tributary Option A: ▪ Some potential ROW impacts ▪ No impacts to Bear Creek ▪ Consideration of Statewide Planning Goals needed Option B: ▪ Similar impacts to Option A but more extensive	Option A: ▪ $2.9 million ▪ No utility relocation or ROW costs included Option B: ▪ $3.6 million ▪ No utility relocation or ROW costs included
27	Talent South City Limits to S Valley View Rd (MP 15.45-17.02)	Install roadway lighting at key locations	Enhance visibility and safety in corridor	▪ Lighting to be installed at transit stops and higher volume unsignalized intersections ▪ Improved safety and security for all modes ▪ Improved visibility for bicyclists on roadway, pedestrians on sidewalks and crossing roadways, and at transit stops	▪ Additional ROW or a utility easement may be needed depending on the roadway cross-section	▪ Some minor ROW or easements may be needed to locate utility poles for street lights ▪ Additional light in rural areas can be construed as a potential impact to surrounding development, which supports careful selection of additional light locations.	▪ TBD
28	Talent Ave Intersection (MP 16.26)	Provide a northbound left-turn lane and an island just north of Talent Ave to serve as a refuge for pedestrians crossing the highway	Improve safety of all travel modes and provide connection to Bear Creek Greenway Trail	▪ Current ADT: 9,000 vpd ▪ Forecast ADT: 12,000 vpd ▪ 3 crashes during a 5-year analysis period including 2 rear-end collisions ▪ Left-turn lane improves safety with refuge for left-turning vehicles ▪ Provides mid-street refuge for pedestrians crossing roadway to improve safety ▪ Connection to Bear Creek Greenway Trail and residential units	▪ Existing roadway width 50' in 95-120+' ROW ▪ Left-turn lane width of 16' ▪ Significant excavation needed in steep slopes on southwest side of OR 99 ▪ Shoulder widening to 8' (could be combined with Concepts 26 and 28)	▪ Existing Jackson County zoning is general commercial, rural residential, or exclusive farm use ▪ Existing Jackson County zoning is exclusive farm use ▪ Bear Creek is located on the east side of OR 99 through this section ▪ No land use impacts ▪ No impacts to Bear Creek ▪ Consideration of Statewide Planning Goals needed	▪ $1.6 million ▪ Does not include utility relocation or ROW

OR 99 Improvement Concepts – Summary Evaluation Matrix

ID	Location	General Description	Purpose	Traffic Operations and Safety[1,2,3]	Basic Roadway Geometry and Right of Way[4]	Environmental and Land Use[5]	Cost Opinion[6]
29	Talent Ave to Bear Creek Greenway Trail Connection (MP 16.26-16.38)	Provide multi-use path on east side of OR 99 connecting Talent Ave crossing to Bear Creek Greenway Trail	Provide facilities along OR 99 for all modes of travel	▪ Current ADT: 9,000 vpd ▪ Forecast ADT: 12,000 vpd ▪ Multi-use trail alongside OR 99 provides paved connection from Bear Creek Greenway Trail to Talent Ave crossing ▪ Southbound bicyclists (or pedestrians) cross at Talent Ave and use multi-use path adjacent to OR 99 to connect with Greenway Trail ▪ Northbound cyclists (or pedestrians) on Greenway Trail continue along OR 99 and can cross to access Talent Ave or continue on OR 99	▪ Existing roadway width 50' in 80-270+' ROW ▪ 10'bi-directional multi-use path adjacent to OR 99, separated from roadway by minimum 5' ▪ May require additional fill if multi-use path is combined with northbound left-turn lane at Talent Avenue ▪ May require reconstruction of some portion of connection to Greenway Trail	▪ Existing Jackson County zoning is exclusive farm use ▪ Bear Creek is located on the east side of OR 99 through this section ▪ No land use impacts ▪ No impacts to Bear Creek	▪ $300,000 ▪ Does not include utility relocation or ROW
30	Talent Ave to Entrance to Jackson Hot Springs (MP 16.26-16.92)	Modify roadway cross section to better serve bicycles and pedestrians - northbound from MP 16.26 to 16.38 (Greenway Trail) and southbound from MP 16.26 to 16.92 (entrance to Jackson Hot Springs) ▪ Option A: Widen existing 4-lane roadway to provide wider shoulders (6') and painted median (2') ▪ Option B: Widen existing 4-lane roadway to increase striped median width (4') and provide standard width shoulders (8')	Provide facilities along OR 99 for all modes of travel	▪ Current ADT: 9,000 ▪ Forecast ADT: 12,000 ▪ 4 crashes during 5-year analysis period Option A: ▪ No changes to roadway capacity ▪ Provides wider shoulders to more safely accommodate bicyclists and pedestrians ▪ Northbound bicyclists (or pedestrians) use Greenway Trail from S Valley View Rd until it separates from alignment adjacent to highway and then use shoulders to Talent Ave ▪ Southbound bicyclists (or pedestrians) use shoulder from Talent Ave to S Valley View Rd Option B: ▪ Benefits are similar to but slightly greater than Option A because shoulder widths center median are wider	▪ Existing roadway width 50' in 80-270+' ROW ▪ Keeps alignment along current center line Option A: ▪ 4-lane rural section (12' travel lanes, 6' shoulders, 2' painted median) ▪ Paved width increases up to 62' ▪ Desired ROW ~85'-95' for slopes and drainage ▪ Significant excavation for ditches ▪ Relocation of all parallel culverts needed Option B: ▪ 4-lane rural section (12' travel lanes, 8' shoulders, 4' painted median) ▪ Paved width increases up to 68' ▪ Desired ROW ~90-100' for slopes and drainage ▪ Significant excavation for ditches ▪ Culvert impacts slightly greater than Option A	▪ Existing Jackson County zoning is rural residential, open space reserve, or exclusive farm use ▪ Bear Creek runs near OR 99 to the northeast Option A: ▪ Some potential ROW impacts ▪ Consideration of Statewide Planning Goals needed Option B: ▪ Similar impacts to Option A but more extensive	Option A: ▪ NB = $200,000 ▪ SB = $1.2 million ▪ Total = $1.4 million ▪ Does not include utility relocation or ROW Option B: ▪ NB = $300,000 ▪ SB = $1.5 million ▪ Total = $1.8 million ▪ Does not include utility relocation or ROW
31	S Valley View Rd Intersection (MP 17.02)	Widen S Valley View Rd to provide dual westbound left-turn lanes at OR 99	Increase capacity and improve safety	▪ Current v/c =0.76, with dual westbound left-turn v/c=0.62 ▪ Forecast baseline v/c=0.87, with dual westbound left-turn v/c=0.62 ▪ 14 crashes in 5-year analysis period including 5 rear end and 6 turning collisions ▪ Improved operations could mean fewer stops at the intersection thus reducing rear end collision potential	▪ S Valley View approaches OR 99 on a structure that would need replacement to widen roadway ▪ RTP includes Tier 2 (unfunded) Project #940 - Realign Valley View Dr at OR 99 and replace bridge ▪ Jackson County TSP Tier 1 Long Term Project 34 include widening S Valley View to 5 lanes with bike lanes and sidewalks	▪ Existing Jackson County zoning is open space reserve and exclusive farm use along S Valley View Rd ▪ S Valley View Bridge crosses Bear Creek and the Greenway Trail ▪ Consideration of Statewide Planning Goals needed ▪ ROW impacts anticipated	▪ RTP cost estimate of $20 million (Project 940) ▪ Jackson County TSP estimate of $8 million (Project 34)

Notes:

1. Traffic operations were evaluated for concepts that were identified to address operational deficiencies. The operational assessment focuses on the volume-to-capacity (v/c) ratio and level of service (LOS) for the 2010 existing and 2034 future condition.
2. At intersections where potential changes in traffic control or turn lanes were considered, the procedures in the ODOT Analysis Procedures Manual (APM) were followed.
3. Some improvements are focused on addressing safety concerns or may address safety as well as traffic operations deficiencies. Crash patterns from the five-year analysis period (2005 through 2009) are discussed for those improvements that address safety.
4. Illustrations of basic roadway geometry and right-of-way needs were developed for concepts that involve infrastructure improvements. The drawings approximate roadway centerlines, edge of roadway and right of way using available base mapping.
5. Impacts to resources were qualitatively assessed based on the data assembled for the environmental and land use reconnaissance. The level of analysis of the study area is designed to identify those areas judged to have considerable potential for conflict.
6. Rough order of magnitude cost opinions were developed using present day dollars and are consistent with standard estimating methods. The estimates include a contingency factor but do not include right-of-way costs. The cost opinions are intended to help differentiate alternatives by approximating the relative costs of each project.